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C O S M E T I C S · S O A P S · F L A V O R S

EST. 1906

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Technical Editor

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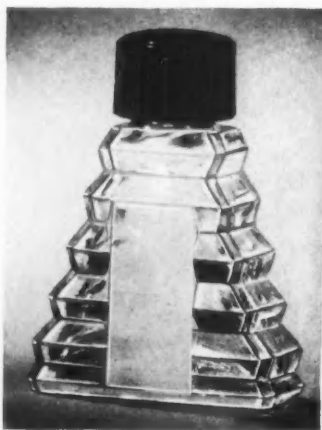
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WAS OVER THE HILLS AND FAR AWAY"**



More than merely beautiful is Stock Bottle No. 395. It is functional for modern packaging. Capacity: 1 dram. Finishes: 10 mm. 425, and 13 mm. 425.

THERE once was a time when it paid to specialize. Such extremes of monotonous activity as Marathon dancing, six-day bicycle riding and flagpole sitting were remunerative professions. But all that is gone now.

Today the accent is on conversion—which is only another name for adaptability. Workers have to change their jobs—manufacturers have to adapt their production lines. The same people and the same equipment have to produce new things and produce them fast.

Consider the stock container. It meets modern needs: it is adaptable, functional, standardized. Yet properly handled it can achieve real distinctiveness as well as utility. Our marketing engineers will be glad to show you.

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desiderata

Comment on interesting new chemical developments and their application to cosmetics and toiletries

by MAISON G. DENAVARRE

SALVAGE

Just to show you the loophole in the tin tube salvage program, consider the list of products put up in tin tubes as observed from tubes turned in for the purchase of shaving cream and toothpaste. Here are some: blue ointment, zinc oxide and boric acid ointment, contraceptive jelly, surgical lubricating jelly, cold cream, anchovy paste, vaseline, burn ointment, depilatory, pile ointment, shampoo cream, hair conditioner and others. None of these tubes actually are required to be returned. Imagine the waste of tin!

In addition, I find a number of drug-gists still have to send their collection of tubes back to the wholesaler. Some didn't seem to know just what to do with them but they are collecting and holding until they are enlightened.

While speaking of salvage, it would not have been out of line to tell people to save their tooth powder cans, cream jars and tops and their fancy powder boxes. In the case of tooth powder cans, it gives me the *willies* when I think of how paper will stand up under handling with wet hands, setting on wet wash-sink tops, being steamed as a result of high humidity when taking a bath, etc., especially if you can't treat the paper to be *water repellent*.

As for jars and caps, some manufacturers are already wondering what they will do after February next if no relief in getting caps is obtained. Of course, there are the paper cap and the plastic cap that can be used. But it will take time to determine the effectiveness of the paper cap. (Remember the plastic lipstick headache mentioned earlier.) And the cost and difficulty in obtaining



plastic caps are a further problem, if the cap won't split when in use. A little education along the line of *getting along with what you have for the duration* will go a long way for both teacher and student.

FACTORY CONCENTRATION

Factory concentration within the industry is one of the things that is on the agenda. A lot of little and middle-sized fellows will end up by having their stuff made at a larger factory, thus releasing workers for war use, cutting down on waste heat, light and power among other things. Just how *brands* will fare in this concentration is not known as yet. However, this will in all probability be preceded by another "limitation order."

The large private label house is going to get a lot of rushing as a result of this, for it is far better equipped to handle many more small accounts than the original owner can. If you are a small manufacturer, here is food for thought.

PRESERVATIVE

Monochloroacetic acid has been used in some food products as a preservative, with excellent results when the product had a pH on the acid side.

However, the FDA won't allow the use of this preservative internally because it claims harm may result. Tests go on at this time. Nevertheless, monochloroacetic acid can find a place in use in some toiletries. Concentrations as low as 0.01 per cent have been found to be sufficient in some cases.

LIPSTICK PROBLEMS

Some of the national brands of lipstick recently began to appear in plastic containers. Parts of some of the containers were made of paper, other parts of plastic material. The returns of lipstick due to various faults are immense. Some of the lipstick proper has *bronzed*, a color phenomenon well known to the printing trade when one color is printed over black, for example. Some of the containers just come apart when turned a little too far. Some warp. Some find the cups holding the lipstick at the base don't do a good job.

It would seem that *practical* tests would have been made before such holders were filled en masse. Warping is one fault that could have been anticipated. The other mistakes could have been determined easily by handing out a few lipsticks to girls. Just another case of closing the gate after the horse was gone.

SHAVING CREAM

One of the problems all makers of shaving cream are facing, since they can no longer get coconut or other glyceride oils but have to use the corresponding fatty acid, is the redesigning of their formulas. The glycerin freed as a result of saponification endowed the older formulas with certain desirable texture characteristics. Replacement of this glycerin by propylene glycol does not mean that you will get the same consistency. In fact, you probably can bet you won't.

Invariably, you will have to change the ratio of stearic to coconut fatty acids, soda to potash, perhaps increase the amount of humectant and perhaps add some kind of mucilage to maintain texture. Such mucilage could be made from sodium alginate, for example, since this material has been found to be satisfactory over periods of time. Irish

WOODEN

Closures
... Cosmetic Novelties



PLASTIC

Lipstick Holders
Closures
... Rouge Boxes



Plastic Lipstick Holder:

A beautiful container of the swivel type made from thermoplastic material. Construction and composition eliminate sweating completely. Two-color combinations. The cover slips on and off smoothly at will. A small flange at the bottom of the case holds the cover firmly in place. Compact and very light — attractively finished. (*Patent applied for on the various features.*)

Wooden and Plastic Closures:

Many special designs and effects can be obtained with both wood and Catalin. Specially developed threading machines eliminate need for threaded metal liners within the cap.

Rouge Boxes:

Many shapes, designs, and colors—available in Catalin and wood.

Cosmetic Novelties:

Special packages, displays, and containers in wood—also in plastics.

WRITE FOR DETAILS

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New York, N. Y.

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Solution
to Temporary
Problems**

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We are now in a position to produce these products in quantity to help solve your priority problems. FONTAINE products, especially in wood, are being used by many of America's leading perfume and cosmetic houses.

moss mucilage is also useful, but karraya and tragacanth (even if you could get the latter) present problems of viscosity changes in use. Methyl cellulose is a prospective material too. A finely ground bentonite is not to be sneezed at. Its versatility may surprise you a great deal.

EQUIPMENT

It is darn near impossible to get any new equipment for the manufacture of toilet articles. However, there is a lot of used second hand equipment that still can be bought from companies which, for one reason or another, are going out of business. This applies to tanks, etc. I know of one well-known make semi-automatic liquid filling machine and another well-known make asbestos disc filtering machine that are available at "steal" prices. These are but samples of what is still available if you look around.

COSMETIC STOCKINGS

The present day cosmetic stocking is chock-full of grief. It dries, leaving a tight feeling; or it rubs off; maybe it makes the popped veins more obvious; it is hard to get on even and without streaks. These are but a few of the headaches. A little open minded research should evolve a different kind of product, but as long as Smith copies Doe, or Jones copies Smith, the market will see no major improvement . . . and an improvement is imperative. The girls are anxious to use the product—and they will—if it has a little less grief attached to its use.

REPLACING METAL PIPE

One of the chemical companies has developed a plastic like material from which they extrude a pipe of any diameter that is desired. Joints and connections of the same material also are to be had. The pipe effectively replaces metal pipe. It is impervious to many of the things used in toilet goods manufacture. Of course certain active solvents could raise Cain with it. But they would with any kind of pipe except perhaps stainless steel, monel or glass. Pipes made of wood or pyrex glass should not be overlooked either. For certain purposes, either is satisfactory.

OIL FACE MASKS—

Oil face masks are sometimes used in the treatment of the skin, and consist of flat cotton pads saturated with slightly warm oil. These are lightly placed on the face and patted down just enough to keep them in position. After from ten to twenty minutes the mask is removed and the oil massaged into the skin, after which the excess oil is wiped off.—Schimmel Briefs.

QUESTIONS & ANSWERS

408. SOYBEAN PROTEIN

Q: We are interested in obtaining some polyhydroxy stearates and some soybean protein. Please tell us more about these materials and where they can be obtained. M.D., La.

A: There are a number of suppliers of polyhydroxy stearates and the variety of polyhydroxy stearates themselves is quite large. There are the stearates derived from ethylene, propylene and diethylene glycols, glycerin, mannitol and sorbitol and other hydroxy compounds. The names of the suppliers of these materials are sent to you under separate cover as well as the name of the supplier of soybean protein. Soybean protein is an emulsifying agent and thickener, having properties similar to those of casein.

409. COLD PERMANENT WAVE

Q: Please give us the name of the supplier and information on the cold method of permanent waving solutions. V.A., Ill.

A: The name of this supplier is sent to you under separate cover. However, we direct your attention at this time to the fact that several patents exist for the waving of hair by the cold method. In addition, soluble thioglycollates tend to oxidize very readily in air and one of these is used as an active material in such solutions. The supplier's name has been sent to you. The direct application method is by far the easiest but at this time we are not prepared to advise you regarding the life of waves produced by this technique.

410. FALSE TEETH ADHESIVES

Q: As a reader of your splendid publication, I wish to enquire as to whether you have a suitable formula for an adhesive preparation that the wearer of false teeth can put on his plate to keep it more firm. Is there much of a market for this product? N.H., Idaho.

A: The most common adhesives

are sprinkled on the denture. These products consist of finely powdered gums and diluents suitably flavored. We are not in a position to advise you regarding the size of the market for such a commodity but we do know that there are available several brands of this type of preparation.

411. MILKY WAVYING SOLUTIONS

Q: We are interested in duplicating the New Ray milky permanent waving solution. If you know what oil they use to make the solution milky, please send me the name of the same and the company that handles it. If not, please suggest the best suited oil for this purpose. S.L., Md.

A: Even if we knew the oil used to make the permanent wave solution you describe we would be unable to tell you for ethical reasons. Under separate cover, we are advising you of sources of supply for oils producing milky permanent waving solutions and we are sure that these companies will give you the particular data required to incorporate their material in your solutions.

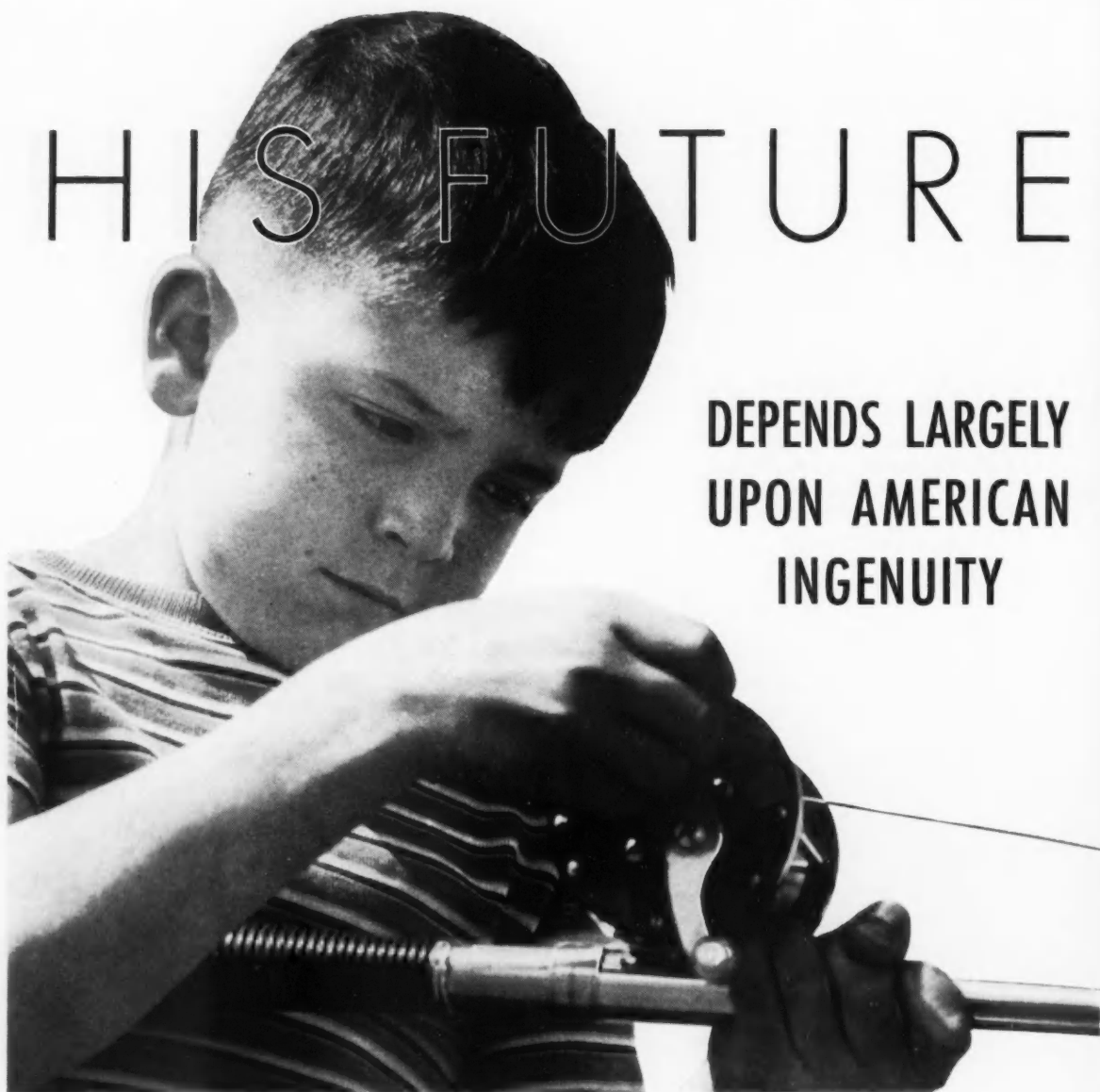
412. PEANUT OIL FOR SHAMPOO

Q: I would like to get a formula using peanut oil as a base for shampoo. I have been a subscriber to your magazine for many years. W.K., Ky.

A: Peanut oil does not make the best shampoo because it produces a slow lather, although it is of fine texture and longer lasting than coconut oil shampoo lather. Peanut oil is not easy to saponify and the lathering properties of the soap are only half of that of coconut oil soap. We suggest the following as a starting point: Coconut oil fatty acids 15 parts, peanut oil fatty acids 15 parts, caustic potash 38° Be 18 parts, alcohol 10 parts, potassium chloride 2 parts, water 40 parts. To enhance the clarity of this shampoo we cannot stress too strongly the desirability of adequate settling time.

HIS FUTURE

DEPENDS LARGELY
UPON AMERICAN
INGENUITY



The future of every kid in America is at stake. It's really our kids we're fighting for . . . the preservation of the American way of life for present and future generations. What greater incentive is there to test the tremendous ingenuity and resourcefulness of our people?

The drama of American War Production will probably go down in history as one of the greatest achievements of all time. Emergencies caused by shortages of vital raw materials are constantly lessened or overcome by American industrial genius. SHEFFALLOY . . . an alternative collapsible tube metal . . . is *our* humble contribution. A development of our research staff, it requires less critical metals and alloys, yet produces a tube of exceptional quality and strength. After the National Emergency, we believe many of our customers will continue to specify Sheffalloy Tubes in preference to those made from other metals.

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THE WILCO COMPANY, 6800 MCKINLEY AVE., LOS ANGELES, CAL. • EXPORT DIVISION, 116 NASSAU ST., NEW YORK



COMMENT

ON CURRENT TOPICS

What is the exact cost of food and drug regulation?

Granting that the public health must be safeguarded at any price, it is not unreasonable to inquire exactly what that price is. In his careful and thoughtful study of food and drug regulation which has just been published, Dr. Stephen Wilson of the University of Pittsburgh points out that although food and drug regulation undoubtedly helps the nation's physical welfare and pocketbook it also produces other results. It increases government control of business; it decreases economic waste; it slows down the introduction of new drugs, devices and processes; it raises the expense of doing business; and, because it controls commodities, it contributes to the heightening of sectionalism, the zoning of markets, the existence of state trade barriers and the erection of international tariff walls.

Suggests that beauty shops assume tax responsibility on cosmetics

A resolution to Congress framed by Joseph Byrne, publisher of *Beauty Culture*, pledges beauty shop owners to sell more and increasing amounts of cosmetics to the public and to assume all tax collections, liability and responsibility.

Due to the provisions of the 1941 tax there has been a heavy falling off in the sales of cosmetics by beauty shops to the public, he points out. Under the law the cosmetic tax is collected partly by the dealer and partly by the shop; and he contends that if Congress would adopt the proposal that beauty shops assume all tax liability on cosmetics that situation would be remedied as

beauty shops would not object any more than any other small establishment to making monthly returns to the government.

Trends likely to affect the cosmetic industry

It seems inevitable with the military authorities gaining the ascendancy in the direction of WPB that civilian activities will be curtailed more and more. A timely picture of the situation including the important trends that are likely to profoundly affect the cosmetic industry is given in the News From Washington which appears elsewhere in this issue. It is well worth careful reading.

Sober consideration of economic trends given by NWDA

Members and others who attended the recent convention of the National Wholesale Druggists' Assn. were warned to prepare for far-reaching merchandising changes as it seems inevitable that the industry is to be concentrated. Distributors were urged to subject their stocks comprising 50,000 or more items to careful scrutiny and to remove slow-moving items and non-essentials. Sober consideration was given to the suggestion that the threat to small retail outlets is especially pronounced. In the drug business and its allied industries the future of most manufacturers is tied up very largely in the future of 60,000 retail drug stores. To meet the present trend it was suggested that manufacturers study distribution costs carefully, avoid price differentials that penalize the small dealer and give consideration to the elimination of slow-moving items. Implications in the situation as a whole are disquieting.

American manufacturers responding to need for cosmetics for soldiers

A market for new cosmetics is being developed by a number of enterprising cosmetic manufacturers in the United States. Following the Japanese invasion of the Malay peninsula where the Japs used face camouflage to make their detection in the jungle more difficult, considerable study was given to the problem of making available to the armed forces of the United States a face camouflage that would meet the abnormal physical conditions and the color blending requirements likely to be encountered on all of the far flung fighting fronts. As a result camouflage for exposed skin surfaces appropriately made in several colors and combinations of colors for different fighting conditions has been developed in the form of a much enlarged lipstick in a substantial paper container which may easily be carried by a soldier and readily applied and removed. Provision is also made for blackening the teeth. This type of face camouflage is just one of the new cosmetics that are being developed for use by the armed forces. Others include preparations for protection against windburn and sunburn and for the feet. In making them the manufacturers have been careful to bear in mind the physical and climatic conditions under which they are to be handled and used, such as desert fighting, snow fighting and sea fighting where such protection is often needed. While no orders of the newer preparations have as yet been placed it is freely admitted that the possibilities promised by a number of the ingeniously prepared preparations for camouflage and protection are being given careful consideration by officials in the armed forces.

de Wardia



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HOW GOOD ARE SUBSTITUTE CLOSURES?

Faults and merits of the new paper, plastic, wood and ceramic closures analyzed from a practical standpoint by an expert

by ROGER AINSWORTH

LITTLE did any manufacturer think when he replaced his collapsible tube and/or tin container with a glass one that no sooner was this complicated and often costly switch effected than he would be up against the problem of a substitute closure for that substitute glass container. With the plastic molding compound and metal pictures so confused and so subject to change without notice, there would be little point in discussing their current status under the various "L" and "M" orders.

NO SUBSTITUTE FOR CROWN CAP FOUND

If he is inclined to grouse when he pulls the tin or black plate crown off his five-cent soft drink or other favorite beverage bottle, let him learn the facts, then he likely will be more tolerant. To date no substitute for the crown cap has been found and being re-use bottles they do not lend themselves to neck change but in the meantime usage even so has been materially restricted. Bottlers are feverishly collecting used caps and reforming them and either sterilizing the liner or replacing it. Likewise, they have adopted the thinnest possible gauge metal to stretch their tonnage allotment and spending large sums to educate their public to the purchase of larger sizes while laboriously collecting old cans of large size, then cutting crowns therefrom and baling and salvaging the scrap.

If the cosmetic manufacturer predicates his argument for more metal on the sizable source of excise tax that his cosmetic products are, what of the tremendous revenue gathering liquor and wine industry wholly cut off from metal closures and the former practically wholly converted to the war effort? If they were not producing industrial alcohol and under an uncomfortably low ceiling price at that, the cosmetic industry unquestionably would have the alcohol lid clamped down tighter still. After all, as one WPB official aptly put it: "We are

not concerned with revenue, our function is to contribute to the war effort. You might take that argument up to Capitol Hill."

CLOSURE REQUIREMENTS

The closure requirements of the various industries mount into New Deal, i.e., astronomical figures. Various estimates have been made and the following is a fair average:

Pharmaceuticals	1,200,000,000
Toiletries and Cosmetics	1,400,000,000
Sterilized Foods	800,000,000
Unsterilized Foods	1,800,000,000
Wines	750,000,000
Liquors	1,300,000,000
Others (Miscellaneous)	750,000,000
Total	8,000,000,000

The point is that these other industries, except sterilized foods requiring metal to withstand hot processing, are competitors for the available closure productive capacity. Pharmaceuticals are obviously and justly sitting in the driver's seat while liquor with only one standard size now and wine with two, coupled with their ability to absorb higher closure costs, will not be brushed aside in the rush.

NO ONE MATERIAL IS ADEQUATE

Since the requirement figures are so tremendous it is at once apparent that no one source or no one material can cope with the situation. This is doubly true since, as developments are brought to fruition, there arises the question of metal for equipment and dies. Even before the present urge came into being, i.e., in normal times, the number of patents granted annually ran not infrequently into three figures. The number of manufacturers and even laymen currently aggressively at work on the prob-

lem must be legion. It appears then that requirements will be met in part by plastics, wood, paper, papier maché, glass and ceramics. Developments in each that have come under observation will be discussed briefly.

PLASTIC SITUATION UNCERTAIN

The plastic outlook blows hot and cold. First there was the critical shortage of phenol for phenolics, then the apparent bad outlook for ureas due to the ammonia situation. Fortunately, the equipment and dies designed for phenolics can by minor adjustments and slight changes in operating cycle be adapted to production of ureas since both are thermosetting. The cost of the latter molding compound is approximately twice that of the former. Currently orders for any required quantity are accepted on the basis of 60 per cent phenolics and 40 per cent ureas constituting delivery. The upshot is that the overall cost while increased is not prohibitive. Molding compounds have had extenders or fillers added to the limit so as to make the molding compound go as far as possible. Molders have come to prefer to make those caps requiring the lowest weight per thousand for any given diameter, and designs that can be produced with the lowest percentage of rejects.

Already many packages are appearing with their long skirt cap supplanted by a short one, although this usually necessitates a change in the neck ring of the container. Likewise, some jars normally bearing single or double shell metal caps have adopted or gone back to plastic closures. And blessed is he who has a stock diameter and continuous thread on his container to make this possible; and doubly blessed, if his resurrected forming die is simple with a low weight to diameter ratio and ample die equipment.

TWO NON-STRATEGIC MOLDING MATERIALS

At least two molding compounds not using strategic materials in their composition are well along in development. If either becomes practical and commercially available the situation will be re-

lieved somewhat. However, the next "bottle neck" probably would be dies, with the metal for additional die equipment not likely to be forthcoming.

WOOD CLOSURES—LIMITATIONS

Wood closures have found limited application for quite some time but the joker has been that they bore no threads or lugs. A metal or plastic insert provided them and the cap liner was cemented or glued into the wood decorative head. The number and productive capacity of wood turners is very large. However, the variety of utility, specialty and novelty items produced is so great and the average wood turning business so small that not one of them can aspire to make everything on which he has inquiries. Accordingly, he jobs competitors' items as well as sells those of his own manufacture. This means first hands are difficult to uncover and work with directly.

Gum, hard maple and white birch offer most promise although everything from yellow poplar to black walnut has undergone experiments. All woods tend to reach an equilibrium with the surrounding atmosphere, be it dry or humid, hence shrinking and swelling then warping and splitting. Boiling in paraffin fills the pores and stops this but precludes decorative or other finishes. Other impregnating methods tried have resulted in at least one satisfactory attractive finish.

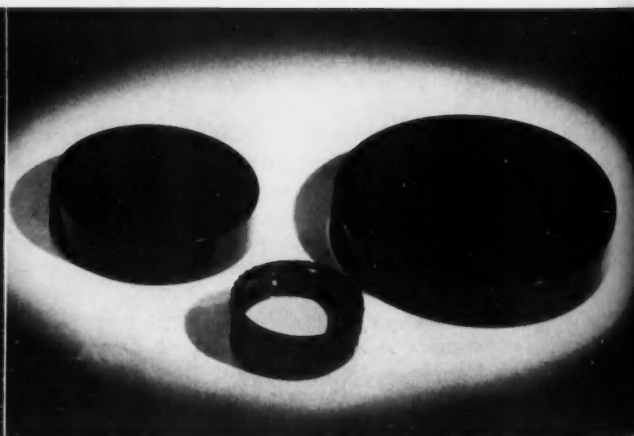
Turning equipment is such and often in such state of repair that tolerances ordinarily maintained are not close enough to fit rigid containers. Then too inability to produce internal threads automatically reduces productive capacity and runs the cost up unduly. The former is being improved and at least one turner now is able to turn the threads automatically. All-wood closures in small diameters will appear soon on commercial packages.

THREE PAPER CLOSURES SHOW PROMISE

Many are at work actively on paper closures and three show considerable promise. One is in large production, incidentally in large diameters; a second has about passed the experimental stage; while



Courtesy Fontaine Products Co.
All-wood closures in small diameters will appear soon. Attractive designs in selected wood and attractive finishes



Courtesy Armstrong Cork Co.
Two molding compounds not using strategic materials are available; but getting needed dies may restrict their use

a third which is the most unique, most rigid and most attractive is still in the throes of developing the necessary equipment for its production. Papier maché caps are undergoing extensive study, mostly using the so-called suction method, but no promising samples as yet have been uncovered.

GLASS CLOSURES NO EASY SOLUTION

To the uninitiated, glass closures appear logical and an easy solution to the problem. However, containers are tempered by one of two methods. By heating the glass above the annealing point, internal stresses are relieved rapidly by flow in the glass, then it is cooled slowly at a predetermined rate. The second process is to toughen it thermally by introducing stresses and strains of controlled magnitude and distribution. The glass is reheated, after forming, to a temperature well above its annealing point but below its softening point and then the surfaces are rapidly cooled by air jets or other means. This chilling puts the exposed surfaces in compression, balanced by tension inside, and these stresses set up are as permanent as the container.

PROBLEM IN MAKING GLASS CLOSURES

Glass to glass contact of container and closure may cause scratching, particularly of any mold fins, which makes it very susceptible to fracture. Further, closures would have to be made by pressing and if the glass were too hot when the pressing pin is unscrewed the threads may settle or the body distort, while if the glass were too cold it might check. As for the metal pressing plunger itself, it is hard to maintain uniform temperature. It might easily be too cold as it enters the mass of glass, then overheat and be ruined since it heats so rapidly during the pressing operation.

One glass closure just becoming available does not use continuous threads but has two lugs to engage corresponding special lugs on the container. In addition, the closure has two bosses or raised dots between the lugs to aid in centering it during application to the container. Even so, it is difficult to start by hand and machine tightening likely is im-

practical, and hopping for full automatic application is definitely out.

GLASS CLOSURE WITH WOOD THREADS

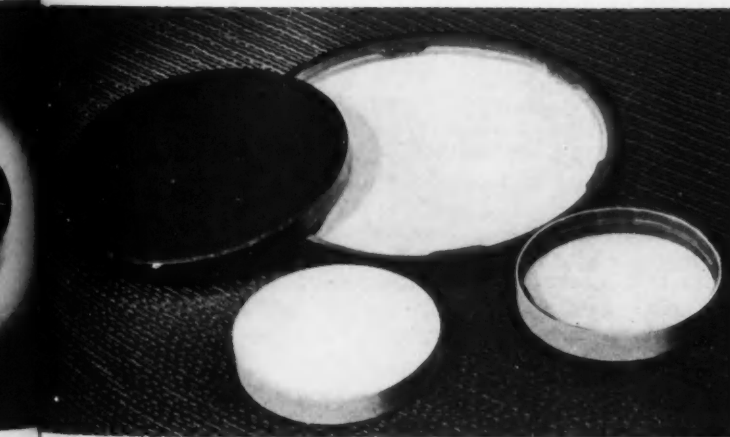
A second glass closure is a loose fitting lid with the lower edge pressed in by heat softening this portion of the glass and applying pressure. Threads are routed or gouged diagonally across a thin piece of soft wood in the flat at an angle to correspond with the lead of the thread of the container. This wood then is cut into strips of proper width and length, steamed, bent and slipped into the groove of the glass closure by its manufacturer. Thus the wood provides the thread and there is no glass to glass contact. It is readily hand applied and likely will withstand machine tightening.

POTTERY CLOSURES

Many are at work on ceramic caps, with a number already having abandoned their efforts. The fact remains, however, that one manufacturer is producing a pottery closure that might on casual inspection be mistaken for a plastic cap. There is no surface glaze, the threads and contour are perfect, close tolerances are maintained and they will withstand hopping and torque of full automatic application. Whether they are made by a special development in manufacturing technique or by the use of the newly available low temperature firing clay is not known. If the former, then using the latter material with it should simplify and expand their production.

PROPER CLOSURE FOR EACH PURPOSE

In conclusion, it would appear that if a line of cosmetics is produced they might well be segregated into three groups, namely, those requiring an airtight, a liquid tight and a sift proof closure. The best available closure for each class then might be standardized, and hearty cooperation extended the closure manufacturers and exhaustive fact finding tests conducted for their help and guidance in their own development work. It is to be remembered that they may have little or even no liner experi-



Courtesy F. N. Burt Co.

So far only three paper closures, including one in large diameters, show promise. Papier mache caps disappointing



Courtesy J. T. & A. Hamilton

Pottery closures are offered without surface glaze, with contour and threads that are perfect and with close tolerances

ence behind them and in the case of wood turners not having the female labor available may even prefer not even to furnish and insert them.

CAPPING THE CONTAINERS WITH NEW CLOSURES

As suggested earlier some substitute closures can be handled like the regular one on semi and even fully automatic capping machines. If it is necessary to adopt closures, in whole or in part, that must be hand applied this need not be unduly disturbing. Probably two girls to start and a third to tighten them with a hand chuck or motor driven flexible shaft capping device will be found adequate for production line speeds up to 60 containers a minute. For higher speeds as many as five or even six girls likely will be required, dependent on the size and shape of the caps.

EFFICIENCY IN CAPPING

The capping operation should not drift along on a makeshift basis but be reduced to an intelligent, studied, efficient routine. If lineal space for this operation is not available on the packaging line it should be provided even if it requires removal of the regular capping equipment. Likewise, hoppers should be placed conveniently for the operators starting the caps, and guide rails, arm rests and any other helpful devices designed and installed to facilitate tightening.

British Containers Curtailed

THE RANGE of sizes and styles of cosmetic and pharmaceutical containers for consumer use has been greatly restricted in England, according to the *Manufacturing Chemist and Manufacturing Perfumer*. The article states that rarely will manufacturers be permitted, by a new government ruling, to pack more than two sizes of such articles as perfumes, tooth powders and pastes, shaving creams, liquid shampoos, hair creams, face powders, talcum powders, toilet creams, hand preparations and deodorants.

One size only will be allowed for shaving sticks, shampoo powders, stocking substitutes, liquid hair rinses, liquid hair dyes, solid brilliantine, scalp pomade, rouge compact refills, face lotions, face packs, depilatories, nail polishes, manicure creams and smelling salts. Only one size in lipsticks in holders will be permitted, but four sizes will be allowed for refills. Toilet waters and eau-de-colognes may be packaged in four sizes for each odor. Some latitude has been allowed in the choice of the type of container used, but where the size range is considerable each size is usually given its appropriate container.

Paper Screw Caps

TAKE a certain all-paper screw cap. We think it looks very good, far better than anything which we supposed could be made from paper. But its first field of application will no doubt be for semi-solid products that ordinarily do not flow and

therefore will not come into close contact with the liner. Creams, pastes, salves, etc., may be closed very satisfactorily with this cap. We are not sure as yet how good it would be for liquids, especially those which have a permeating nature. Paper caps, we should think, cannot be screwed down as tight as metal. Nor are we sure how they would fare in automatic capping machines. Nevertheless, with no metal available for cold cream closures, for example, this all-paper cap may very well be the answer that will keep the product on the market after present metal closure supplies are exhausted.

Another factor which inevitably affects the usefulness of a new closure is the availability of machinery for making it in large enough quantities. It is quite a step from a hand made model to mass production. The same thing holds true of new capping equipment, which today is available only to manufacturers of "essential" products.—*Glass Packer*.

Demand for Cosmetics in London

NOTHING furnishes more conclusive proof of the store women set by cosmetics than the lengths to which they are prepared to go to get these beauty preparations today, according to Joy R. Smail in *Soap, Perfumery & Cosmetics* (London).

The majority of London shops are besieged daily by eager customers and a staff is as necessary to turn people politely away as it was to promote sales in the days of peace. In addition, there is a steady flow of letters received from women living out of the big cities who labor under the illusion that although the goods are unobtainable in their own particular district, they are procurable in the big cities.

The stringent restrictions curtailing the sale and manufacture of cosmetics in England are very clearly felt but the undiminished demand keeps shops and beauty specialists busy, if not busier, than in pre-war days.

Note on War Aims

THE Vice-president of the United States is an idealist and ideals are a fine thing. But we experience an acute attack of ideological indigestion when he says that our purpose in the present struggle will not have been attained until "nine out of ten adults of the world can read and write" and until "all the children of the world can have at least a pint of milk a day."

It's time we began conditioning ourselves against disillusion after the war. To believe that, when we have won military victory, every wrong will be righted and misery banished from the world is to court certain disappointment. Politics has been defined as "the art of the possible." If we hold our war aims down to earth, the war may be turned to good account, but if we try to fly kites of impossible ideals into the stratosphere it will turn out to be what most wars turn out to be—a total loss.—*Nation's Business*.

SPECIAL:

COSMETIC LIMITATION ORDER REPEALED

*No restriction on new or old products or number or kinds of containers that may be used . . .
Future output to be controlled by allocation*

By ARNOLD KRUCKMAN

All limitations on the production and distribution of Toiletries and Cosmetics were sweepingly and completely revoked by an Order issued by WPB on the afternoon of October 13, 1942. The Revocation Order became effective immediately on the day it was issued.

ORDER L-171 WIPED OUT

This means that Order L-171, the so-called Toiletries and Cosmetics Limitation Order, and its various Amendments and Interpretations, no longer have any effect. They are wiped out. The Toiletries and Cosmetic industry now is exactly in the same position where it was before the Limitation Order was promulgated. It is subject to all Limitation Orders that have been issued on the use of specific ingredients such as alcohol, lanolin, and various chemicals and oils; and it is limited in its use of the materials that go into the production of containers and closures, exactly as all other industries are affected by these specific and separate limitations on *materials*. Mark particularly that term *materials*.

LIMITATIONS ON MATERIALS HOLD

With the revocation of Order L-171, the Toiletries and Cosmetic industry is subject to any and all limitations that apply to the use of any *materials* considered critical or otherwise scarce. These materials are specifically restricted by separate Orders that have been issued from time to time since the War emergency agencies began to function. The restrictions apply to ALL industries that use the materials for any purpose whatsoever. But these Orders do not place specific limitations upon *end-use productions* and *distribution*. The products made by the Toiletries and Cosmetic industry, such as face powders, shaving soaps, shampoos, toilet powders, tooth cleansers, bath salts, cosmetic stockings, eyebrow pencils, lotions, lipsticks, perfume, rouge, creams, nail polish, and the numerous other separate products, are known here as *end-use products*. They are the final combinations of ingredients or mate-

rials as they are packaged and sold to the consumer. These are the products, together with the containers in which they are put up, and the closures used on the containers, that were further restricted or limited by the revoked Order L-171. It is this end-use limitation or restriction on production and distribution that is removed.

NUMBER OF CONTAINERS UNLIMITED

It is wise to understand this clearly. It would be unwise to assume that the lid is off and that the sky is the limit. There are still all the limitations on the use of restricted critical materials *as separate materials*, whether they are the oils, chemicals, alcohols, glycerines used in compounding the end-use products, or whether they are the metals and papers and other materials used in the containers and closures. The effect of the revocation of the Order is that the producer may make as much of any given article as he pleases, in any form he chooses, and he may put up his articles in as many different kinds of containers as he elects, without limitation, so long as he does not use more of the restricted materials than he is entitled to use, or so long as he uses substitutes that are not limited or restricted.

NO QUOTAS TO WORRY ABOUT

There are no more volumes or quotas to worry about as specified in L-171, and there is no limit to the number or kind of containers you may use, *so long as you do not use an excess of restricted materials, or so long as you can get materials to take the place of the restricted materials*. You may make greater volume and number and kind than you made in 1941, providing you have the materials; there is now no regulation against it. But it would be very poor judgment to go hog wild in production, because you would be very likely to kill the goose that laid the golden eggs. The people in the WPB Chemicals Branch and in its Drugs and Toiletries Section are your friends. They have amply demonstrated it. They

knew that the Toiletries and Cosmetic industry suffered unnecessary hardships. The industry not only was under the restriction of the several Orders controlling the materials it used, but it also was under the additional burden of a restriction on the production and distribution of its end-use, compounded, products. The industry was being strangled by restrictions coming and going. Months ago, in these columns, we told you that Assistant Branch Chief Lawrence Brown, and Chief of the Chemicals Branch, Dr. E. W. Reid, strongly opposed any limitations on the end-use products of Toiletries and Cosmetics. They felt the industry, on the whole, used materials not needed for the War effort, and that it could make substitutions for those needed in the War. In a report to Donald Nelson this point of view was strongly urged.

With the advent of Fred J. Stock as head of the newly formed Drug and Cosmetics Section and the greater emphasis on the counsel of Dr. A. B. Pacini, senior consultant, and the amalgamation of Chief Willard's Toiletries and Cosmetic Branch with the Chemicals Branch, it was easy to make the point of view of the Chemicals Branch leaders the dominant factor.

MORE RESTRICTIVE ORDERS COMING

The people in the Drug and Cosmetic Section stress the fact that it will be wise to watch your step; many of the necessary materials used by the industry rapidly will become scarcer. There will be more restrictive Orders on the use of various materials required by the industry. Obviously it will not be wise to plunge.

Finally, mark well, also, that the Revocation Order ends with these words:

"This Order shall not be construed to affect in any way any liability or penalty accrued or incurred under said Order L-171, or any Amendment or section thereof."

This means, obviously, those who deliberately violated the Order while it was in force will not escape the consequences of their acts.



USE OF SALT IN DISTILLING BAY LEAVES¹

Lowering vapor pressure of water, salting out and plasmoptysis, all effects of use of salt in distillation, increase yield of oil . . . Fourth and final article in series

by MERRIAM JONES and NOEMÍ G. ARRILLAGA

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IN THE first paper of this series,² it was recognized that one of the factors that contribute to the observed increase in yield of bay oil from bay leaves when salt was present in the stillwater was that salt lowered the vapor pressure of the water and thereby increased the relative vapor pressure of the oil. It is the purpose of this report to consider in detail this effect of the salt apart from its other effects.

EFFECT OF SALT ON VAPOR PRESSURE

The lowering of the vapor pressure of water by salt is a general phenomenon applicable to any steam distillation. The other effects considered, i.e., salting-out and plasmoptysis, are not so generally applicable because in some cases there are no soluble constituents to be salted-out or the plant material may be in such condition that plasmoptysis is not required to free the oil from the cell structure. Moreover, the consideration of the vapor pressure relations leads to conclusions concerning the efficiency, cost and degree of completion of a steam distillation.

In the following, in order to avoid complicated calculations, a hypothetical bay oil consisting of eugenol and myrcene is considered. The distillation of the oil is based on the relation between the partial vapor pressure of water, eugenol, and myrcene and the relative amounts of the three in the liquid phases and in the vapor phase. It is assumed that the vapor phase becomes the distillate without permitting any condensation of the less-volatile components in the stillhead. Any such condensation of the less-volatile components of the vapor before reaching the distillate constitutes fractionation and therefore decreases the efficiency of the steam distillation.

CALCULATIONS ONLY APPROXIMATIONS

Since the simple laws of physical chemistry are used to obtain the partial vapor pressure relations and the amounts of the components in the distillate in a hypothetical system, the results of these calculations can be taken only as approximations. How-

ever, valid conclusions can be drawn from the trends found.

Theory of Partial-Pressure Distilling

In a closed system containing only eugenol, molecules are continually passing from the liquid to the vapor phase and others are striking the liquid surface and condensing thereon. At equilibrium the number of molecules leaving the liquid surface is equal to the number reentering from the vapor. There is then a constant number in the vapor at any given temperature and these molecules exert a pressure on the walls of the container. This pressure, the vapor pressure of eugenol, is affected by the temperature insofar as the temperature controls the number of molecules in the vapor and the velocity with which the molecules bombard the walls. The magnitude of the vapor pressure is also a function of the constitutional properties of the molecules, i.e., the mass and the forces which tend to hold them together in the liquid phase. Therefore, at a given temperature, different substances may have different vapor pressures.

If another liquid such as myrcene is added to the eugenol to form a solution, the vapor contains both kinds of molecules and the total vapor pressure over the liquid is the sum of the partial vapor pressures exerted by each substance. The contribution of eugenol to the total vapor pressure is proportional to the relative amount present in the solution and to the vapor pressure of pure eugenol. If the proportion of eugenol present in the solution is expressed as the number of eugenol molecules divided by the total number of molecules, the decimal thus obtained is called the mole fraction of eugenol. The fraction of the total vapor pressure due to eugenol is called the partial vapor pressure of eugenol in the solution and is equal to

$$P'_E = N_E P_E \quad (1)$$

likewise for myrcene

$$P'_M = N_M P_M \quad (2)$$

where

P'_E = partial vapor pressure of eugenol,

P'_M = partial vapor pressure of myrcene,

¹ This is the fourth of a series of 4 papers.

² *American Perfumer*, December, 1941.

N_E = mole fraction of eugenol in the liquid,
 N_M = mole fraction of myrcene in the liquid,
 P_E = vapor pressure of pure eugenol, and
 P_M = vapor pressure of pure myrcene;

and the total vapor pressure, P_O , over the solution is

$$P_O = P'_E + P'_M \quad (3)$$

From the above relations one can go further and obtain the relative amounts of each substance in the vapor. In terms of mole fractions these amounts are:

$$N'_E = \frac{P'_E}{P_O} \quad (4)$$

$$N'_M = \frac{P'_M}{P_O} \quad (5)$$

where

N'_E = mole fraction of eugenol in the vapor,
 and

N'_M = mole fraction of myrcene in the vapor.

The mole fraction of a substance in the vapor phase is equal to the ratio of the partial vapor pressure of the substance to the total vapor pressure of the solution.

Therefore, if the mole fractions of the components in solution and the vapor pressures of the pure substances are known, one can approximate the total vapor pressure of the solution and the amounts of each component in the vapor.

Now, when water is added to oil solution with which it is immiscible, and the temperature raised to the boiling point, the vapors of all three liquids pass to the condenser and form the distillate. This is known as partial-pressure distillation, or, if the water is added in the form of steam, it is called steam distillation.

At atmospheric pressure the total vapor pressure over the system is 760 mm. Hg at the boiling point.

$$760 = P_W + P_O \quad (6)$$

where

P_W = vapor pressure of water, and

P_O = vapor pressure of oil solution.

The number of molecules of water in the vapor is proportional to the vapor pressure of water, and the number of oil molecules in the vapor is proportional to the vapor pressure of the oil.

Therefore:

$$\frac{C_O}{C_W} = \frac{P_O}{P_W} \quad (7)$$

where

C_O = number of oil molecules in the vapor, and

C_W = number of water molecules in the vapor.

Since the weight of the number of oil molecules is equal to the number of each times the mass of each, the following obtains:

$$W_O = \frac{C_E M_E}{A} + \frac{C_M M_M}{A}, \text{ and} \quad (8)$$

likewise for water

$$W_W = \frac{C_W M_W}{A} \quad (9)$$

where

W_O = weight of oil in the vapor,

W_W = weight of water in the vapor,

C_E = number of eugenol molecules in the vapor,
 C_M = number of myrcene molecules in the vapor,
 C_W = number of water molecules in the vapor,
 M_E = molecular weight of eugenol,
 M_M = molecular weight of myrcene,
 M_W = molecular weight of water, and

A = number of molecules in a mole 6.04×10^{23} .

Substituting equations (8) and (9) into (7) gives:

$$\frac{W_O}{W_W} = \frac{W_E + W_M}{W_W} = \frac{M_E P'_E + M_M P'_M}{M_W P_W} \quad (10)$$

where

W_E = weight of eugenol in the vapor, and

W_M = weight of myrcene in the vapor.

Equation (10) is used to estimate the amount and composition of the oil that would be carried over by a kilo of water in an ideal steam distillation. The bay oil is taken as containing 9 moles of eugenol to 1 mole of myrcene. The vapor pressure of eugenol was estimated from data for Eastman white-label Eugenol and the vapor pressure of myrcene from the data of Palkin and Wells.³ The partial vapor pressures are calculated from equations (1) and (2).

EFFECT OF SALT ON VAPOR PRESSURE

This is shown in Figure 1, where the vapor pressures are plotted against the temperature. The two lower curves, partial vapor pressure of eugenol and partial vapor pressure of myrcene, are added to give the total pressure of the oil.

³ Palkin, S., and Wells, P. A. Composition of the non-phenol portion of bay oil. *Amer. Chem. Soc. Jour.*, 55: 1549, 1933.

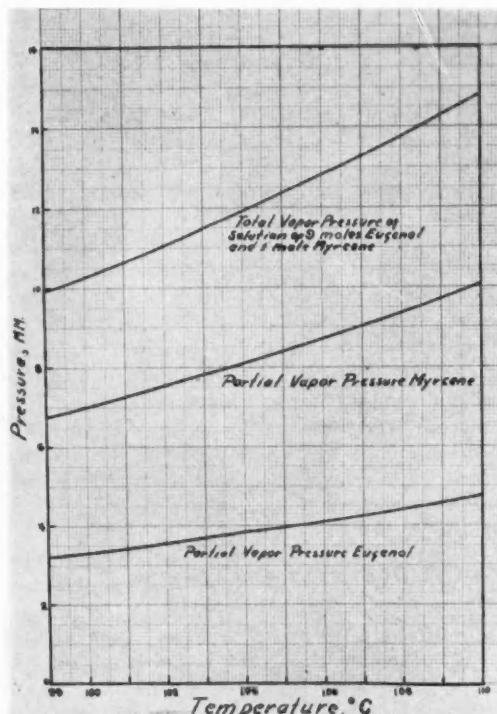


Figure 1—Change of vapor pressures of an oil and its components with temperature

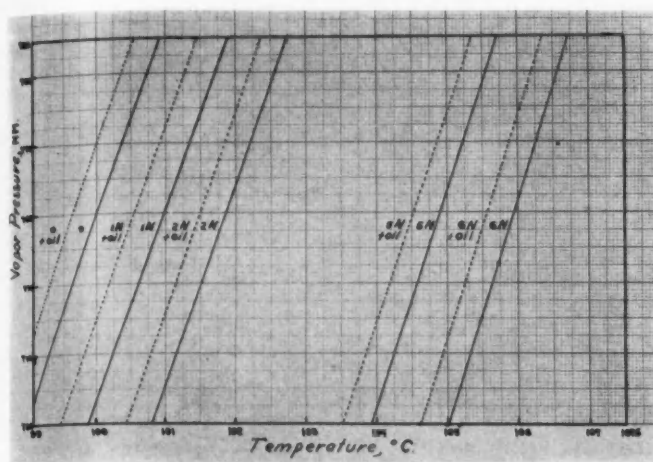


Figure 2—Temperature plotted against vapor pressures of salt solutions of indicated normality (solid lines) and of these salt solutions plus oil (dotted lines)

For distillation at atmospheric pressure, the partial vapor pressure of water is

$$P_W = 760 - (P'_E + P'_M) \quad (11)$$

Salt added to the system decreases the vapor pressure of the water. In order for boiling to continue the temperature must increase until the sum of the partial vapor pressures of all the components is again equal to 760 mm. This is illustrated in Figure 2, in which the vapor pressure of the systems are plotted against the temperature. Starting at the left the solid lines give the vapor pressure change with temperature for 0-, 1-, 2-, 5-, and 6-normal NaCl solutions. Thus, water boils at 100° C., 760 mm., but if it is made 1N with respect to NaCl the vapor pressure decreases to 734.8 mm. In order for this salt solution to boil, then the temperature must increase to 100.92° at which point the vapor pressure will again be 760 mm.

The dotted line in each case in Figure 2 represents the sum of the solid line (vapor pressure of the salt solution at each temperature) and the corresponding vapor pressure of the eugenol-myrcene solution taken from Figure 1. The temperatures at which the dotted lines cross the 760-mm. line are the boiling points of the system oil-water-salt. Thus, it can be seen that the oil phase lowers the boiling point of the water, and that water plus oil, i.e., eugenol and myrcene in a 9:1 mole ratio, boil at 99.63°.

The boiling points of the systems containing certain amounts of salt are determined in this way and referred to Figure 1 to obtain the partial vapor pressure of the oil components at the distillation temperature of each system. Subtracting the sum of the partial vapor pressures of eugenol and myrcene from 760 gives the vapor pressure of water in each system. Substituting these values in equation (10) and setting the mass of water equal to 1,000 grams, give the mass of oil entrained by a kilo of water in an ideal steam distillation.

The mole fractions of eugenol and myrcene in the vapor are calculated from equations (4) and

(5). From the mass of oil entrained by 1,000 grams of water and the mole fractions of eugenol and myrcene in the oil, the mass of eugenol and of myrcene can be calculated from the following derived formula:

$$W_E = \frac{W_O N'_E M_E}{N'_E M_E + N'_M M_M}, \text{ and}$$

$$W_M = W_O - W_E,$$

and the weight percentage of eugenol in the distillate is:

$$\frac{W_E}{W_O}$$

From the mass of eugenol and myrcene carried over by 1,000 grams of water, the number of moles of oil is calculated. The corresponding mole fraction of oil in the vapor is obtained by dividing the number of moles of oil by the number of moles of oil plus the number of moles of water in 1,000 grams (55.525). Using the solubility data given in the second paper of this series,⁴ the mole fraction of eugenol dissolved in water is obtained.

The results of the calculations are tabulated in Table 1. (See following page.)

The table shows that the distillation temperature increases as salt is added and also as the pressure is increased but, more important, it shows that the relative vapor pressure of oil as compared to that of water increases. This leads to a greater mass of oil entrained by a kilo of water. However, the weight percentage of eugenol in the distillate does not change.

Data are plotted in Figure 3 to show the in-

⁴ loc. cit.

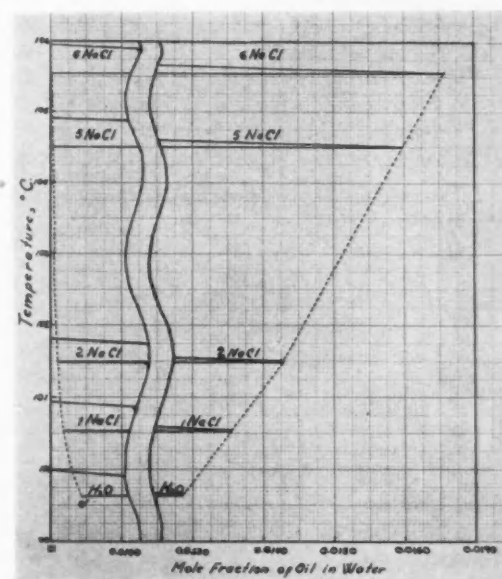


Figure 3—Temperature plotted against mole fraction of oil in liquid phase (horizontal line), in vapor phase after oil layer has distilled (hypotenuse). The shape of this curve is not known. It very probably is not straight. Each triangle represents steam distillation with the stated amount of salt present. The dotted line 0-6 represents the mole fractions of oil in the vapor as salt concentration is increased. The dotted line 0'-6' represents the mole fraction of oil in the aqueous phase as salt concentration is changed

crease of mole fraction of oil in the vapor with the temperature corresponding to each salt concentration. The lowest triangle on the graph, zero salt concentration, shows the change of composition of the vapor and liquid as distillation proceeds. The horizontal line represents the change of the mole fraction of oil in the liquid phase while the hypotenuse represents the change for the vapor phase. So long as an oil layer is present, the mole fraction of oil in the vapor remains at point 0 as the composition of the liquid phase proceeds to the left on the horizontal line. When the oil phase is gone, point 0', the temperature increases and the mole fraction of oil in the vapor phase decreases toward zero along the hypotenuse. The shape of this curve is very probably not straight. The same applies to the other triangles where salt is present. Thus, it is found that as the salt concentration in the water increases, (a) the amount of oil entrained by a given amount of water increases along the dotted line 0-6, and (b) the amount of oil lost by dissolving decreases along the dotted line 0'-6'.

Discussion

All the foregoing considerations, based on an ideal steam distillation of eugenol and myrcene, can be carried over in a qualitative way to the steam distillation of bay oil. The following points are important:

From the vapor-pressure relations it can be seen that the percentage of eugenol in the liquid oil in the stillpot is much higher than the percentage of eugenol in the distillate. In the ideal system the weight percentage of eugenol in the liquid oil was 90.5, while the weight percentage of eugenol in the distillate was calculated to be 36.3. Qualitatively this can be seen to be true when one considers the low vapor pressure of phenols as compared to that of nonphenols. Therefore, from the amount of phenols and nonphenols in the first distillate col-

lected, one can approximate what the amount of phenols in the still must have been in order to yield the observed mole fraction of phenols in the distillate. Thus, calculations on the basis of data in Table 1 in the first paper in this series⁵ indicate that the percentage of oil in the leaves was over 3 rather than the 2.4 obtained by steam distillation.

This contention that the percentage of oil in the leaves may be considerably greater than the percentage obtained by steam distillation is further borne out by the results of exhaustive distillation of leaves given in the third paper in this series. In that experiment the yield was over 3 per cent after 9 hours' distillation, and there was yet more oil in the leaves and stillwater as shown by the positive phenol tests at the end of the distillation.

ORDINARY STEAM DISTILLATION INEFFICIENT

Another fact brought out by the considerations of an ideal system is that an ordinary steam distillation is comparatively inefficient. Thus, the calculations indicate that a kilo of water should entrain more than 100 grams of oil. Actually only 10 to 15 grams of oil are carried over by a kilo of water. Furthermore, the calculations show that the composition of the oil in the distillate should remain constant during the distillation until the oil phase is exhausted. However, our data given in Table 1 of the first paper of the series show that the percentage of phenols in the distillate varied during distillation from 60 to 94.

This inefficiency and the variation in composition of the oil are probably due to fractionation. In other words, the less-volatile components in the vapor phase tend to condense and return to the stillpot before reaching the condenser proper. This leads to a greater amount of the more-volatile components in the distillate than would be expected on the basis of the above calculations. Such is the case in an ordinary distillation. Much more water and

⁵ loc. cit.

Table 1—The calculated effects of salt on the ideal steam distillation of eugenol-myrcene (9:1 moles)

Item	0 molar	0 molar under 785 mm. pressure	1 molar	2 molar	5 molar	6 molar
Boiling temperature water and salt °C./760 mm.	100.00	100.87	100.92	101.82	104.90	105.95
Boiling temperature steam distilla- tion of oil °C./760 mm.	99.63	100.53	100.53	101.48	104.50	105.55
Partial vapor pressure eugenol, mm.	3.26	3.36	3.36	3.47	3.89	4.04
Partial vapor pressure myrcene, mm.	6.89	7.13	7.13	7.38	8.23	8.55
Total partial vapor pressure of oil, mm.	10.15	10.49	10.49	10.85	12.12	12.59
Partial vapor pressure of water, mm	749.85	773.51	749.51	749.15	747.88	747.41
Mass oil entrained per kilo water, grams.	109.11	109.30	112.80	116.71	130.62	135.77
Mole fraction eugenol in vapor, %E.	.3212	.3203	.3203	.3198	.3210	.3209
Mole fraction myrcene in vapor, %E.	.6788	.6797	.6797	.6802	.6790	.6791
Mass eugenol in vapor, grams.	39.637	39.30	40.870	42.224	47.423	49.279
Mass myrcene in vapor, grams.	69.473	69.70	71.930	74.486	83.197	86.491
Eugenol weight percent in distillate, percent.	36.33	36.23	36.23	36.18	36.31	36.30
Oil in distillate, moles.	.7520	.7534	.7776	.8046	.9003	.9358
Mole fraction oil in distillate.	.01336	.01339	.01381	.01428	.01596	.01657
Solubility phenols, Gm/1.	4.00	4.00	1.6	1.1	0.4	0.2
Solubility phenols, moles.	.0244	.0244	.0098	.0067	.0024	.0012
Mole fraction of dissolved phenols in water.	.00044	.00044	.00018	.00012	.00004	.00002

some more nonphenols are found in the distillate than should be necessary to carry over the observed amount of phenols. Furthermore, more of the higher-boiling phenols come over during the later stages of an actual distillation.

EFFECT OF RAISING PRESSURE

Calculations were made to see what effect raising the pressure would have on the distillation. Raising the pressure results in an increase of distillation temperature, just as when salt is used, but does not change the relative vapor pressures so markedly. Thus, if the distillation were carried out at 785 mm., the distillation temperature would be 100.53° C., the same temperature as obtained by using 1-N salt solution. The results are tabulated in the third column of Table 1. At this increased pressure the weight of oil entrained by a kilo of water is 109.30 gm., as compared to 109.11 gm., for 100° at 760 mm., with no salt. When 1-N salt solution is used the weight is 112.80 gm., per kilo of water. Therefore, it can be seen that the effect of salt in increasing the distillation temperature is small compared to its effect in lowering the relative vapor pressure of the stillwater.

Calculations made on the basis of a 7:3 mole ratio of eugenol-myrcene lead to the same conclusions.

Conclusions

At this point it is necessary to point out that for steam distillation of plant material there are two concepts of efficiency. One concept is on the basis of degree of exhaustion of volatile substances from the plant material. Thus, one can calculate efficiency as the yield of oil obtained divided by the amount of oil present in the plant material. We shall refer to this as yield efficiency.

The other concept of efficiency is on the basis of the amount of heat required to transfer a unit of oil from the stillpot to the distillate. We shall refer to this as the heat efficiency. Thus, there may be two samples of bay leaves which yield the same amount of oil but require different amounts of water to entrain the oil due to differences in the availability of the oil. If one would thoroughly bruise the leaves in one sample, the oil would distil more readily than from a similar sample consisting of intact leaves.

These considerations of efficiency are of practical importance because the yield efficiency has to do with the amount of the product obtained from the plant material, while the heat efficiency is a factor in the cost of obtaining the product.

From our calculations we can conclude that one effect of salt in the still is to increase the heat efficiency of the process. For an incomplete distillation this results in an increase of yield efficiency also. However, in exhaustive distillation⁶ the increase of yield efficiency is not due to the vapor pressure effect of salt but to the coordinate effect of plasmoptysis. The fact that the gain observed in

most of our experiments was in phenols makes it appear that salting-out is also an important factor.

Therefore, disregarding the small negative effect on emulsification, the increase in the yield of oil from an ordinary steam distillation due to the use of salt can be ascribed to at least three separate effects: lowering of the vapor pressure of water, salting-out and plasmoptysis.

ACKNOWLEDGEMENTS

The authors are indebted to Director Atherton Lee, Wallace K. Bailey, Harold K. Plank and Dr. Kenneth A. Bartlett for editorial aid and constructive criticism of the manuscripts in this series.

Price Ceiling Crisis

HARD pressed by the March roll-back ceiling prices, large sections of the food and beverage industry face an uncertain future today unless the legal bottlenecks in the OPA can be overcome.

Buyers are finding that large quantities of important supplies are being withheld from the market by sellers taken unawares by the roll-back. A number of plants have suspended operations entirely pending some adjustment which will permit them to continue at a profit.

When the ceiling regulations became effective, the majority of wholesalers and producers were selling products either purchased or cost-equalized months before. Although the replacement value of these stocks had increased, these firms succumbed to the blandishments of OPA by agreeing to keep price levels down until the low-priced stocks were exhausted. Now they feel they have been penalized by taking OPA too literally.

Principal complaint is that there is a 60-day lag between producers' and retailers' prices, and in producers' rotation of inventory. A roll-back ceiling not only does not take account of this lag; it works the other way.

A particularly difficult situation was presented in the maple industry. Maple syrup is produced only once a year. The size of the crop cannot be estimated in advance because it is largely dependent on the weather in the producing sections in March and April. The more freezes and thaws, the greater the flow of sap. It is in April that the crop is harvested. Consequently, in March most maple producers were selling what was left of the old crop at 1941 levels. But because of labor shortages, the farmer demanded and received 50 per cent more for his syrup than he got during 1941.

The crop this year turned out to be a substantial one. Because the crop comes in only once a year, the producers covered as they always do and now have tremendous stocks on hand which they cannot afford to sell. Passed along down the line, jobbers and retailers cannot obtain any brand of pure maple syrup to sell at their respective ceiling prices. Unless this situation is speedily corrected, the pure product will be quickly replaced with artificially flavored products, endangering the whole maple market.—*Food Materials & Equipment*

⁶ See Table 2, third paper of this series, *American Perfumer*, September, 1942.

Short Adages

by R. O'MATTICK

Cosmetic Note: June Ippere's liquid stockings are so real that she wears garters with them.

* * *

Horticultural Note: For the very first time, tulips with a pleasant fragrance have been grown. And the place is near home (geographically speaking), at the estate of J. P. Morgan, Glen Cove, L. I. Mr. Morgan has a passion for flowers. At one time he postponed a business trip to Europe just to see some of his Long Island roses bloom. We, too, love flowers, and their odors mean much to us. Our ambition is to acquire a fortune so that, among other things, we can grow buttercups and daisies with lovely perfumes. If the odors don't develop, there always will be the other things, if the fortune develops.

* * *

Financial Note: It is hardly possible to think of J. P. Morgan without thinking of finance. We enjoyed reading "Received—But Not Read" by Tom Jones Parry in *Nation's Business* for August. It is all about the firms who lose business because of their neglect in answering letters. What impressed us most about the article was the heading, in bold type: "If this article had a \$100 check attached, payable to you for reading it, you'd read it. Well, it may pay you more than that." Well, we read the whole thing and hope that it *may* pay us more than that, but right now, recovering from the third installment (not of the article—but of the income tax), we will gladly settle for the hundred dollars.

* * *

Folk Lore: "Indian Plant-Lore May Be Source of New Perfumes," a recent issue of *U. S. I. Chemical News* states. The Department of Agriculture believes that the knowledge of aromatic plants possessed by Indians in Arizona and elsewhere may be used to create new perfumes. Having never been in a squaw's boudoir nor even in a real wigwam, we don't know what these perfumes will smell like, but we have the names ready: "Pow-Wow," "War-Dance," "Campfire," and "Tom-Tom." Should any good real Indian decide to go into the perfume business we shall gladly swap the rights to use these names for some of his oil-fields. And Otto Stock thinks a good name for a hair- tonic with a real American-Indian scent would be "Scalp." As soon as his boss, Dr. Rowmateral, starts working on Indian odors there will be added meaning in calling him "Big Chief."

* * *

Liederkrantz Research: But at the moment of going to press, the Doctor is searching in other directions. Yesterday, we dropped in to see that ever-inventive genius of odors and flavors. Our previous visit was greeted with the savory odor of a meat sauce. "That's all over," he said. "No sense in working on a new meat sauce with meat rations facing us. The AAA wants us to eat more cheese. Cheese is plentiful. We produce almost one-half

billion pounds of it annually. I want to help the AAA make the USA a nation of bigger cheese-eaters. The idea is not to keep on imitating French cheeses and Dutch cheeses and Italian cheeses but to put out some cheeses with real American flavors. Tastes are less universal in flavors than in perfumes. A fine perfume is liked the world over but unless one is looking for adventure he doesn't experiment with the flavors of all nations. Smelling an exotic odor is one thing but eating a strange food is something else again. Only a daring gourmet tries new flavors. *De gustibus non est disputandum*, as the Romans said."

"They must have been speaking Latin," I broke in to show that I was following. But he paid no attention to me and went on. "Now we Americans like bacon-and-eggs, coffee and buckwheat cakes. Instead of bothering to find out what ingredients give taste and odor to Camembert or Liederkrantz or Gorgonzola, why not have a cheese with a bacon-and-egg aroma or a coffee note?"

Why not? We smelled Dr. Rowmateral's cheeses and the odors were there! Just then the air-raid drill alarm sounded in the building and we proceeded calmly but fortunately to the area on the fourth floor, saved from tasting his experiments.

* * *

Invitation: Of course, we did not return to Dr. Rowmateral's laboratory after the air-raid drill was over but happily found our way to our desk. There was a letter for us which we answered at once, profiting by Mr. Parry's article "Received—But Not Read." Although we would have answered it, in any event, as it was a welcome invitation from one of our friendly readers and helpful contributors—an exporter who still knows how to smile: "Cancel all other engagements. Have shipping space reserved for you this Saturday on my fishing boat. No fishing or export license required. Bring sweaters in triplicate as cold weather is expected. *Ex dock* 8 A.M. Advise acceptance at once. Whoever discusses foreign markets will be pushed overboard."



"We're allowed to make and sell this cream—are you allowed to buy it?"

HOW ORANGE TREES ARE CULTIVATED

Methods employed in Europe to produce the richest oil . . . Factors governing yield of flowers in distillation . . . Other products . . . Uses

by AUG. HUGUES

THE *aurantiaceæ* are the most valuable trees as far as perfume is concerned. They embrace the bitter oranges, the sweet oranges, the lemon trees, the bergamot trees, the citron trees, the grapefruit trees, etc.

All these trees like a warm and humid climate. The best average yearly temperature is 14° centigrade, with an average summer temperature of 22°-23° centigrade. These trees are not able to withstand a prolonged temperature of minus 4° to minus 5° centigrade during wintertime. Their cultivation is widespread. They are to be found in the following temperate and tropical countries: Egypt, Algeria, Tunisia, Morocco, The Azores, The Provence, Italy, Greece, Syria, Australia, Cape of Good Hope, Paraguay, and in Florida, Texas and California. In France, the orange tree grows

between Hyères and Menton, a distance of about 100 kilometers, and not more than twenty kilometers inland. The level of the most exposed places is not higher than 400 meters.

BITTER ORANGE TREES

The only variety which interests perfumers is the *citrus bigaradia*, or bitter orange, the wild, thorny form of the sweet orange. Its fruits are of the same size as the common orange, but are not edible. They are very bitter and also sour. The skin of the fruit is very red, very wrinkled and spotted with concave vesicles. The tree has many leaves. The petioles of the leaves are spread out into thin branches. The flowers are very big and contain much essence. Their smell is sweet. This is the type of *aurantiaceæ* mostly used in perfum-



Women and children gather orange flowers which must not be exposed to the sun—a woman can pick eight to ten kilograms daily

ery, and the only type which is cultivated for its flowers. It is harder than the sweet orange, and is also the best grafting tree of all citrus trees, because its trunk rises up straight, and also because it is able to resist a blight affecting the resin.

EUROPEAN CENTERS OF PRODUCTION

In the Maritime Alps the principal centers of cultivation are: Vallauris, Le Golfe-Juan, Le Bar-sur-Loup. In Italy bitter oranges abound in Sicily. In Algeria they are to be found mainly in Boufarik. In Tunisia they are met at Nabeul, on the Cap Bon Peninsula. Marakech and Fez are the centers of cultivation in Morocco.

METHOD OF PROPAGATION

As is the case with most trees, orange trees are propagated by means of seeds, grafting, cuttings, layering. Propagation through cuttings is not much in use. Layering is the common method in Spain. Along the Cote d'Azur seeds are planted in seed beds during March-April; the transplanting takes place at the beginning of the second year. This work must be undertaken when the weather is warm and bright. Each plant is to be separated thirty centimeters from the next one, and the rows must be at a distance of one meter from each other. Two years later is the time for grafting. Slips with buds are generally used for this purpose. May and June are the best months, for then the sap is flowing freely and the bark can be loosened easily from the trunk.

ABUNDANCE OF SUN AND AIR NEEDED

The orange nursery should admit much sun and much air. Orange trees fear the wind which rips off their leaves, and above all hurts the fruit. Orange trees also dislike ground with too much lime or clay or silica. Tightly packed and clammy soils also are not good for the tree.

If these considerations are observed and the climate is favorable, the bitter orange—the most robust of all orange trees—can be planted in almost all soils which have been manured and which are watered during summertime. The planting of the young, grafted plants takes place in April-May in the Provence; at a distance of four meters from each other. During the first years it is necessary to direct the growth of the branches, so that the foliage is high above the ground and the necessary work on the tree can be performed. Later the foliage has to be kept in a well-rounded shape, and between the main branches spaces have to be left, which enable the gatherers of flowers to reach the center of the tree.

HOW THE TREES ARE CULTIVATED

The agricultural part of the cultivation consists of digging, ploughing, manuring, lopping off branches, watering, and treating against insects and ailments. Three times a year the ground is worked: In the Spring with pulverized manure; after the harvest to loosen the ground; and the last time during September-October in order to

apply manure and organic matters which decompose slowly. At least two ploughings are required during the summer. Watering is especially necessary during the first few years after planting. It varies according to climate, soil, exposition, atmospheric conditions, the cultivated space, and the nature of production. It is to be undertaken either early in the morning or after sunset, and even at night.

TREES CLEANED AFTER FLOWERING

In southern France the trees are trimmed during May-June, after the flowers have been harvested. This is more a general cleaning than just a trimming. Lower branches, dead branches, suckers, branches which are in each other's way, branches which are too long, branches which could injure the nursery workers . . . they all are to be removed. The tree is to be trimmed in such a manner that the foliage is exposed as much as possible to the air, light, warmth and rain.

GUARDING AGAINST INSECT DAMAGE

The orange trees possess a dangerous enemy, the cochineal, a beetle. Especially the subspecies *chrysomphalus*, usually called red flea, does considerable damage. The fight against it is difficult, because the insect is well "camouflaged." The trees are protected by being sprayed during spring and summer with a powdered mixture. Hot liquids are also used. These have the advantage of staying effective much longer. Other malicious insects attack the young shoots, the leaves and the flowers. Against each of them appropriate treatment is applied with some degree of success.

PRINCIPAL AILMENTS OF ORANGE TREE

The principal ailment of the orange tree is the *fumagine*, a black dust caused by fungi which form themselves on the surface of the leaves and impede the natural functions of these leaves. The trunk and branches are often smitten with a kind of running resin. The bark then loosens itself and begins to swell. The branches also can dry out and die. The causes of this latter ailment are not well known. Various reasons have been given: physical, chemical, physiological. Fungi may be at fault, the soil may be too tightly packed, not sufficiently aired, too humid, too much irrigated. The trees may have been trimmed too closely, they may have been injured or suffered from a cold spell after a warm period. Finally, the manure may have been too rich or the trees may not have been able to acclimatize themselves.

SENSITIVE TO COLD

Orange trees react to cold weather according to vegetation, age and exposure. The less robust they are, the more they have suffered from insects and ailments, the easier they react to cold weather. If the temperature maintains itself at minus 4° to minus 5° centigrade for several days, serious damage is to be feared. Frost attacks only the young branches which have not yet become lignified. But



Orange groves near Grasse, France, where half the harvest is processed. Most flowers are distilled in alembics by means of steam

it also has happened that the entire trees were covered with ice. In this case they usually have to be chopped down.

In the Alpes Maritimes, the harvest begins during the second half of April and lasts until the end of May, sometimes even into June. The flowers are gathered in the morning, after the dew has dried up. This kind of work is done by women and children. A woman can pick eight to ten kilograms of flowers daily, according to ability and the abundance of flowers. The flowers must not be exposed to the sun. As soon as they have been picked and sorted, they are arranged in thin layers in a cool place where they are stirred rather often in order to avoid the gathering of heat before they are brought to the distillery.

The sales price of a kilogram of flowers varies. In 1940 it went up to 25 francs. It has also been down to Frs. 0.20. If the price is below one franc, the grower is the loser. The foregoing figures refer to normal times.

FACTORS DETERMINING YIELD OF FLOWERS

The amount of flowers which each individual tree yields depends upon age, variety, care, atmospheric conditions, ailments, attacks by insects. The bitter orange starts to produce three to four years after planting. For the next ten years, it produces a medium harvest; and its biggest yield is attained during its twentieth and its thirtieth year. The yearly production of the Alpes Maritimes varies between 1.8 and 5 million kilograms; the region of Golfe-Juan Vallauris, itself, produces 850,000 kilograms.

DISTILLATION OF ORANGE FLOWERS

Most flowers are distilled in alembics by means of steam. Half of the harvest is processed at Grasse, whereas the rest goes to Bar, the Golfe-Juan, Vallauris and Cannet. Golfe-Juan has a very important plant, a co-operative enterprise in which

1200 producers are united. The fabrication of essence depends on the temperature, on the manner in which the trees were exposed to light and air, etc. The foggy months are less favorable than sunny, dry periods. Trees on slopes, with southern exposure, and those which are protected against cold winds, will yield the best results. At the beginning of the harvest one kilogram of flowers will give 0.7 grams of essence. Later, when the temperature is favorable, 1.5 grams. The average yield is one gram. The essential oil, which is obtained by distillation, has a smell absolutely different from that of the flower. This smell is also different from that of the product obtained by maceration in pomade—using heat—or by means of volatile solvents.

CHIEF PRODUCT IS NEROLI

The essence known as *neroli* is used mainly for the production of Eau de Cologne. The other aromatic products gained from the orange tree form a component part of toilet waters, perfumes, cosmetic articles, creams, powders, soaps, etc.

In this connection must also be mentioned the orange water which bakers and druggists use, as well as the water which is distilled from the leaves (*eau de brouts*) and which is sold either pure or mixed with the essence gained from flowers.

USES OF THE PEELS

The fruits of the bitter orange tree are picked when they are still green, from August to December. The skin, peeled off in form of spirals, is dried and then sold to liqueur distilleries, druggists and bakers.

ITALIAN METHODS

In Italy, other methods are used, as far as bergamots, citron, lemon, orange, and tangerine trees are concerned. Here the principal fields of production are Calabria and Sicily. The process-

ing takes place from December until the end of March, sometimes even until May. The essences obtained here are known in trade circles as Messina essences.

EAU DE COLOGNE FORMULA

Here is a recipe for eau de cologne, according to a formula in 1847:

Bergamot	16 grams
Citron	16 "
Lemon	16 "
Orange	16 "
Petitgrain	16 "
Cédrat	8 "
Rosemary	8 "
Lavender	8 "
Neroli	8 "
Cinnamon	4 "
Alcohol 88°	1500 "

Dissolve and after a few days distill in a boiler until it is "dry." Then add:

Alcoholate of mixed grain...	200 grams
Alcoholate of Rosemary.....	30 "

Get Ready for Cold Weather Now

DURING the mild autumn months it is always difficult to make ourselves realize that in a few months it will be cold again. Most of us dislike and dread winter and that is one reason why we often are not ready for it when it puts in its appearance.

But, just the same, like it or not, *now* is the time to get ready for winter. Compel yourself to do it. I suggest that you go around your establishment with a pencil and pad and make memoranda of what should be done now so as to be ready when cold weather is here. Do the work as soon as possible. When winter arrives you will experience that peace of mind and happiness, always so pleasant to experience after a good deed is well done.

Perhaps I can assist by making some suggestions. Take boilers, for example. Are your boilers in good condition? Statistics prove that workers are in greater danger in winter than in summer because boiler explosions are more numerous in December, January and February than in the other months. Add all of the explosions during the other nine months and they usually do not equal the explosions during the three above winter months.

Now, too, is a good time to *modernize* old boilers. Clean them thoroughly. Make them better than when they were new by installing modern baffle walls in them—baffle walls which cannot short circuit valuable hot gases. A first class leakless baffle wall is a much more important economy factor than is generally realized. Leaks in the setting should also be stopped. Check over the grate bars, the stoker, the economizer, the feed water heater, the feed water regulator, the water column, the gauge glass, etc.

Perhaps you use exhaust steam during the winter months but not during the summer months. If so, put the exhaust system in shape. Look over the

back pressure and control valves. Steam traps usually give more trouble in winter than in summer. So do pumps and receivers. Give them all a careful test and if they need repairing, repair them.

How about the roof? Is it insulated? If not, and if you have never investigated the benefits that result from an insulated roof I suggest that you investigate. For instance more heat is generally lost through the roof than through the walls of a building owing to the fact that warm air always goes upward and presses itself against the ceiling. If the ceiling is cold and not insulated, good-bye valuable heat!

To insulate an old roof is not as difficult as may be believed. It is not necessary to remove the old roofing. Simply make the roof smooth and clean. One well known and much used formula for old roofs as well as new, recommended by a leading cork roof insulation manufacturer, is this: "A layer of pitch or asphalt, plus a layer of our cork board, plus another layer of pitch or asphalt." That's all that is necessary. You can have a durable, leakless, heat-proof and cold-proof roof. An important advantage of high grade cork is that it does not warp, crack or crumble. It is practically fireproof. Have you ever tried to burn cork? It burns with great difficulty.

Some woodwork needs a coat of paint once every year—especially wood that is exposed to sunlight every day. Clean out the water leaders from the roof. Be sure that all stuffing boxes are properly packed. Inspect all valves. Inspect insulation on hot pipes. If there is a sprinkler system in your plant be sure that it also is in good working order. There are more fires in winter than in summer. Vacuum lines, broken window panes also are to be looked after. And so forth. By doing these important jobs *now* greater efficiency and economy will result during the winter months. Besides it is easier to do them now than later on when the equipment is needed. The time to do these things is when the plant load is lowest and that time is usually during the warm summer months. Next winter the same work may cost ten times as much or even more. It often is expensive to carry full load and do certain repair jobs simultaneously. Sometimes it cannot be done at all without extraordinary expense and inconvenience.—*W. F. Schaphorst.*

Abundance

ABUNDANCE—enough for all—is the answer to the problems of the world. When there are no haves and have-nots but only haves, when there is no such thing as an ill-fed, ill-housed one-third of a nation—one-third of a world even—then we can look forward to man's greatest development as a man, and to a world where peace will be a reality, not just a breathing spell, an illusion between wars.—*F. E. Mullen.*

It is a longer distance from wrong to right than it is from right to wrong.—*Howard S. Neiman*

After-War Demand for Goods

IN ESTIMATING the probable economic condition of the United States when peace comes, we can foresee a domestic demand for consumer goods unprecedented in the nation's history. For several years, we shall have had no automobiles, no refrigerators, tractors, tires, washing machines, typewriters, stoves, heating equipment, radios—to which may be added a list yards long of other items. There will have been no building and virtually no improvements to dwellings and business property. There will be an accumulation of public works, highway construction and railway improvement that was halted by the war. There will be a demand for civilian clothes for millions of returning troops. There will be a tremendous need for heavy machinery and small tools as factories return to the production of peace-time products.

Now, when we look abroad, conditions will be infinitely more acute. Hundreds of millions will need the essentials of life. Moreover, they will need food and foodstuffs desperately. America will no longer be the arsenal of democracy—it will have to be the larder of the world.—*F. E. Mullen.*

Anti-Caries Mouthwash

COMBINATION of quinine hydrochloride and urea in a mouthwash may provide a buffering agent against acids believed to promote development of dental caries, according to a report by Drs. E. C. Wach, J. F. O'Donnell and M. K. Hine, of the University of Illinois (F. Amer. Dental Assoc.). Suggested formula is:

	%
Quinine hydrochloride	0.5
Urea	4.0
Glycerin	25.0
Sterile distilled water to	100.0

Incorporation of these ingredients in a dentifrice or lozenge was also suggested.

A disadvantage is that the bitter quinine taste persists in the mouth for from one to three hours.—*Manufacturing Chemist.*

Business Letters

EVERY letter received by a business house calls for a prompt answer. It may not seem important to the firm, because it doesn't relate directly to the sale of goods or services, but you can be certain it is important to the correspondent or he wouldn't have taken the trouble to write. And every correspondent represents a certain amount of good will.

One of the cardinal sins in business correspondence is that of delaying replies because some key executive is away, says Tom Jones Parry in *Nation's Business*. "Sometimes such a delay is justified when big decisions concerning policy are at stake," continues Mr. Parry, "but the number of times routine matters are held up because someone is out of the city is appalling."

Most of this is plain buck-passing—a favorite sport in business as well as government offices. If

a letter is addressed to Mr. Smith and he is away it's easier to reply that "This will receive his attention on his return," or simply to toss it in Smith's basket and say nothing. But with a little conscientious attention on someone's part, most such letters could be answered in Smith's absence. It is good business to have them so answered, and the executive who is a good organizer sees that this is somebody's responsibility.

Rinses for Blond Hair

A COMPARATIVELY unknown natural dye which occasionally is also used in hair preparations is an extract from rhubarb, which contains chrysophanic acid. Zerbelaud suggests the following for blond hair:

Rhubarb tincture (20%)	25 to 50
Alcohol	80
Diethylene glycol	10
Perfume compound	10
Add distilled water to make	1000

Saponine may be added for its foam producing qualities.

Mix the rhubarb tincture with the alcohol, and dissolve the saponine in the distilled water, while the perfume compound is dissolved in the diethylene glycol, and then add it. The finished hair preparation should be suitably colored.—*Schimmel Briefs.*

Idle Time Utilized

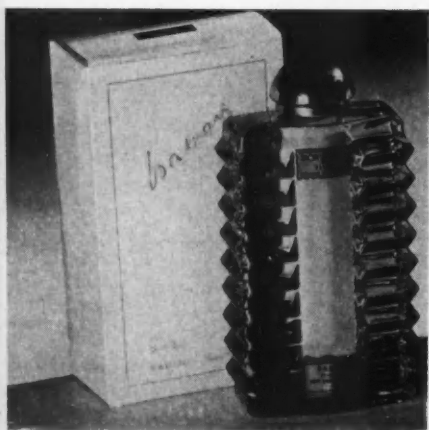
PERHAPS never again will an industry such as ours find so many idle hours at the peak of seasonal demand. This year our men will have much time on their hands. It is our belief that all this extra time can be capitalized and our sales people kept active by carrying out the following program:

1. Additional sales training.
2. Give extra study to point-of-sale methods.
3. Cultivate our present and new outlets.
4. Build better customer relations.
5. Study our competitors' strength and weakness.
6. Spend more time discussing sales and merchandising ideas with retailers.
7. Get better acquainted with our own people.
8. Continue to strive for displays, so that dealers won't push merchandising into storerooms.
9. Study the cost of distribution with our men in planned meetings.
10. Solicit ideas from our men. Let them express themselves more frequently.
11. Strive to maintain the very fairest service to all dealers during proration. Stress the importance to our men of rendering courteous, considerate, fair, and just treatment in these troubled times.
12. Urge all sales people to continue selling as hard as before—not to let up one minute during this period.

Such a wartime sales and service program will carry us safely through, I am confident—will help to maintain good public relations, and will enable us to go ahead under full steam when peace returns to the world.—*G. R. Ames.*

Packaging

Portfolio



1. Babani—Monsieur is the name of the men's cologne recently introduced. It comes in one size in a panelled flacon, packed in a white carton. Cap and label are gold-colored.



2. Lightfoot Schultz Co.—A big decoy duck of bath soap is seated on a bath brush behind a "blind" of bull rushes in Decoy, a gift for sportsmen. Carton design has same theme.



3. Richard Hudnut—One of the novelties at this firm is a tiny flacon of Yanky Clover perfume presented in a butterfly container whose colors are red, white, blue, with gold stars.

4. Beauty Counselors—Grandmother's souvenirs from the seashore, packed in a picture frame box, gave the design to the bottle and package for a new bath essence, Escape.

5. Elizabeth Arden—A delicate fan design is engraved on the cover of this gleaming metal oval compact which is sifter-type, with large mirror. The cover has a place for initials.

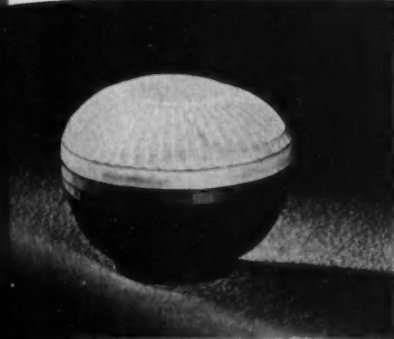
6. Schiaparelli—To the line of Sleeping products have been added two sizes of soap in pillow shape and dusting powder. The family design and color theme of Sleeping Blue are used.

7. Helena Rubinstein—Sterling silver is the material for this new compact and lipstick in column design. The compact which is the sifter-type has a suede jacket for protection.

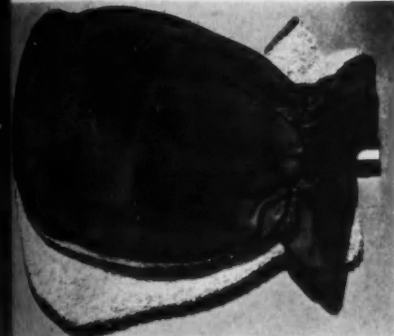




Wett & Ramsdell—Creams for Beauty is a special offer. Perfect night cream and Golden cleansing cream. combination is offered in a pink and fuchsia box.



Job—Evening in Paris Creme-Parfum introduces a skin-type cream as a substitute for alcohol. The jar at the jewel-like container are blue and white.



Cherbert—Golden Glove is a leather-backed mitt, terrycloth palm, containing five ounces of foam, created for after-shower, after-shave use.



South—The bottle for Cotton Blossom cologne is a work of an antique craft, capped in white birchwood. The label and the pink carton.



Private Number is a combination perfume container and saving bank. It has two bottles of perfume. The receiver is a slot for depositing coins.



Revlon—A sterling silver ornament decorates Jewel Box which is made of red or green rayon velvet lined in celanese. It holds nail products and manicure implements.



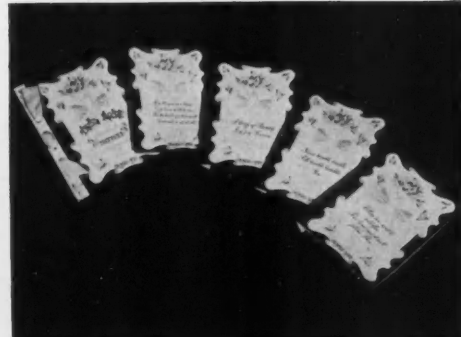
Coty—A little wooden wagon permanently lacquered in pink with gold scrolls holds three perfumes. It is the Garden Cart, designed for use later as a cigarette box.



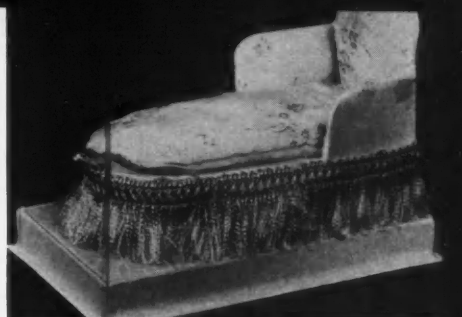
Lucien Lelong—Taffeta sachets, pillows filled with carnation sachet, are tied together with contrasting ribbons. The square pillows are available in pink, white, blue.



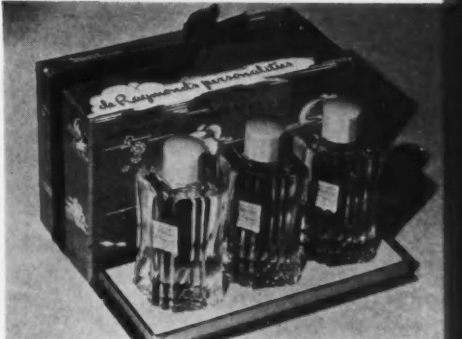
Dura-Gloss—Ten versions of this new manicure kit are now available. It is of silk or simulated leather and holds nail polish, cuticle and polish removers, etc.



Charles of the Ritz—Moss Rose sachet mottos are a looseleaf book of sachets decorated with Victorian sayings. The line's color theme, green and rose, is used.



Stuart Products Co.—Sa-Chaise Lounge is a sachet and perfume ensemble, made of rayon fabric with fringe. It is offered in pink and blue, packed in an acetate box.



de Raymond—Personalities package holds three flacons of cologne. Fuchsia is the dominant color for the carton which is tied with a deeper shade of satin ribbon.



Marie Earle—Drawstring Bag is circular, shaped like a collar box, made of gay checked taffeta with waterproof lining. It contains six cleansing, makeup items.



Dorothy Gray—The new Mimosa bath line includes soap, bubbling bath, dusting powder, bouquet. Pale yellow, blue, pink flowers harmonize on the packages.



Peggy Sage—Nail Box takes its package design from a rural mail box. It contains a threesome of nail items, polish in a deep shade, Satinbase and polish remover.

More Uses of Triethanolamine

THE industrial applications of triethanolamine are assuming more importance monthly as the excellent and very versatile emulsifying properties of this base become known more widely. Among recent uses is the preparation of a mothproofing solution containing triethanolamine silicofluoride, aluminum sulphate and a suitable wetting agent, such as a fatty alcohol sulphate. The product is covered by U. S. Pat. 2,176,894 taken out by the assignors to Merck & Co., Inc.

Triethanolamine also is used in the manufacture of parasiticides where it is necessary to disperse the active constituent in an aqueous medium. The use of triethanolamine soaps in the manufacture of furniture polish of the oil-in-water type is fairly common now. The recipe varies, of course, depending on choice of wax, but a typical commercial recipe is:

Carnauba wax	30 lbs.
Mixed waxes	20 "
Kerosene	35 "
Oleic acid	5 "
Stearic acid	3 "
Triethanolamine	4 "
Water	350 "

The polish is best made by melting and mixing the first five ingredients in an open steam kettle and then slowly adding with constant stirring the triethanolamine dissolved in water at 180 deg. F. Ammonium oleate may be used as the emulsifying agent and is quite satisfactory. In all cases where triethanolamine is employed it is essential that complete mixing should be carried out, otherwise the excellent emulsifying properties of this expensive base will not be fully exploited.

One of the most efficient agitators for mixing heavy semi-fluid or pasty substances or for thoroughly incorporating a small amount of material through a large batch is the double motion bride type. This agitator develops a most complete agitation as two radically different motions are obtained. The central conveyor screw draws the material through and over the drum, while the outside sweep with paddles attached works through the mass in the opposite direction, forcing it downward where it again is caught by the screw. Adjustable spring steel scraper blades, alternately arranged, are attached to the sweep. These blades at each revolution scrape the inside surface of the kettle covered by the sweep. Scraping prevents contents from sticking and burning and improves heat transfer.

Lend-lease Aid

WHENEVER a question is raised as to how the United States could face a domestic shortage on some commodity the answer is always the same: "It's the quantities we must supply to other countries through lend-lease."

Lend-lease aid is now flowing from this country to 36 nations in every quarter of the world. Not only munitions of war, but all sorts of things from

tomatoes to sealing wax. Not only to our military allies, but to peoples who will never send a soldier or a ship to war. That sugar stacked high on an Atlantic dock may be marked for Turkey and those cases of drugs for Guatemala. Nor will these free shipments end with the war. Then comes "rehabilitation." Lend-lease has vastly outgrown its original conception.—*Nation's Business*.

Paint for Skin Discolorations

SO-CALLED cover paints used to conceal and blend the white, pigment-free skin spots characteristic of vitigilo (acquired leukoderma) can also be used to temporarily cover other smooth skin blemishes, scars or marks. Moreover, such products, if properly made, could also be useful to soften and blend the often sharp sunburn lines so frequently seen at the end of the summer season.

The formula for making such a skin-colored lotion or paint, modified from Dr. W. A. Pusey's well-known prescription, is given in the new edition of *The Merck Manual*. The base consists of:

Zinc oxide	45 Gm.
Prepared calamine	45 "
Glycerine	4-16 cc.
Rose Water, to make	500 cc.

To this is added, drop by drop, sufficient ichthyol to cause the paint to match or blend with the surrounding skin. Usually from 10 to 60 drops are needed, and the addition should be made carefully, since success of the paint depends on the closeness of the match obtained. Face powder may be applied after using this concealing paint.

However, it must be warned that any abnormal, pigmented area on the skin should be examined by a physician to determine whether or not it requires medical care.

Exportation of Drums

THE Board of Economic Warfare in its Bulletin No. 30, on the subject of the exportation of drums and containers, stated in part:

1. Metal drums and containers of a capacity of 10 gallons or less, when filled with commodities the exportation of which has been licensed, may be exported to all destinations under general license provided the drums and containers are of a type reasonably suited for the exportation of such commodities.

2. Exportation of metal drums and containers exceeding 10 gallons in capacity must be authorized by individual export license, except:

(a) All metal drums and containers filled or unfilled, may be exported under general license to Canada, Great Britain and Northern Ireland, Newfoundland, Greenland, Iceland, and the U.S.S.R.

(b) Metal drums and containers, regardless of capacity, may be exported under general license (to destinations numbered 1 through 99) when filled with chemicals or petroleum products, the exportation of which has been authorized by an individual export license issued prior to July 15.



✓ GINGER AND OLEORESIN GINGER

Uses in flavoring . . . Where and how cultivated . . . Grades . . . Physical and chemical properties . . . Constituents of oleoresin ginger

by DR ERNEST GUENTHER

Chief Research Chemist, Fritzsche Brothers, Inc., New York, N. Y.

GINGER has been one of the most popular spices since antiquity. Widely employed in the curries and savory dishes of the Orient, it was even known in the exotic delicacies served in ancient Rome. Central Europe became acquainted with this spice probably during the ninth century; Spanish settlers introduced it to the New World soon after the conquest, and only a few years later valuable cargoes of ginger were exported from Central America and the West Indies to Spain.

DESCRIPTION

Ginger is the prepared part root (rhizome or underground stem) of *Zingiber officinale* Rosc. (fam. *Zingiberaceae*), a plant about two to four feet high which is cultivated in tropical countries, especially in Jamaica (West Indies), the Malabar Coast (South India), on the Sierra Leone, and in Liberia (West Africa). The herbaceous perennial has leafy stems; the rhizome, which alone is utilized, emits fibrous roots. Probably a native of southern Asia, it is not known in the wild state.

The plant requires a warm and humid climate, well watered soil, and a great deal of manuring. It grows at altitudes up to 4,000 and 5,000 feet. Seasonal rainfalls are very important. The soil must be well drained, neither too compact nor swampy. It need not be very rich; sandy, even calcareous loam serves the purpose. On India's Malabar Coast (around Cochin) the plantings are laid out on undulating land, consisting of laterites, well exposed to bright sunlight and not shaded by trees.

The crop is an annual one. It is not necessary to plant in nursery beds. Ginger is propagated by dividing the rhizomes into pieces two inches long,

each of which must contain at least one eye. Previous to planting, the rhizomes should be kept in a dry place. They must not be moist because they easily rot. About nine to eleven months after planting, the flowers of the grown plants disappear and the overground parts wither. The rhizomes are then dug up and prepared in different ways for marketing.

HARVESTING IN SOUTHERN INDIA

In the Cochin region of southern India, the harvest takes place December-January. Well ripened and bold rhizomes are selected for planting out the following year. They are spread on grass mats eight to ten feet above a fireplace in native huts and exposed to smoke which dries and preserves them. The smoking continues from February to April. Planting commences with the arrival of the first rains early in May.

Beds six feet long and three to four feet wide are prepared on selected land. Small holes, four and one-half inches deep and three inches apart are dug, and one of the selected rhizomes planted in each hole. The holes must then be filled up with dry cow-dung powder because ginger requires ample fertilization, especially when the soil is not very rich. If the holes are not well filled, the planting material is apt to rot. Planting completed and the holes filled in, the beds are covered with green leafed tree branches. The branches shade the beds and the leaves, which wither and fall off, act as a green fertilizer. After the leaves have fallen off, the bare branches are removed and the beds weeded.

When the ginger begins to grow and the shoots reach a height of four to five inches, fresh undried

cow-dung and leaf-mold are placed on the beds. About one month after planting, the edges of the beds should be raised to prevent washing away by the monsoon rains. Since the ginger leaves are frequently infested with various pests, they are sprinkled with slaked lime or sulfate of ammonia, as a prevention. Aside from occasional weeding, there is nothing further to be done until the ginger is harvested, usually from December to January. The plants require about nine months to mature.

One pound of planted rhizomes yields a crop of about ten to twenty-five pounds, the quantity depending, of course, upon nature of the soil and weather conditions. Harvesting of ginger is very similar to the digging up of potatoes; it is done by a single thrust of a narrow "mammatti" at the time when the stems of the plant turn white and before the rhizomes have become tough and fibrous. Then the crop is carried to the owner's work shed where the best rhizomes are immediately selected for the following year's planting.

PREPARING OF GINGER

After the root material necessary for replanting has been set aside, the remainder of the freshly harvested rhizomes are spread on mats and thoroughly dried in the sun; this usually takes four or five days, sometimes longer. Despite direct exposure to sunshine, the rhizomes must be turned regularly in order to assure complete drying; otherwise the roots would mold or sprout. As protection from mold, the rhizomes are sometimes dipped into a mixture of red ochre and water and subsequently dried again.

The rhizomes to be sold as ginger are then prepared for the market by removing the fibrous root, washing, decorticating (if necessary), careful drying and sometimes bleaching.

DIFFERENT FORMS OF GINGER

Ginger occurs in irregularly shaped "hands," laterally compressed and sometimes up to six inches in length. It is offered in different forms:

1. The dried rhizomes with adhering skin are called "black," "unscraped," or "coated" ginger. For preparing this ginger, the root is dug up and the fibrous part removed; then the rhizomes are washed and dried in the sun. Since the essential oil of ginger occurs directly beneath and in the skin (epidermal tissue), this type of ginger has the most pronounced odor and flavor, although its appearance might seem inferior. This feature, in addition to lower price, suggests the use of "black," "unscraped," or "coated" ginger as the most suitable grade for extracting essential oil.

2. For preparing "scraped" or "uncoated" ginger, the root is dug up, the fibrous parts removed, the rhizomes washed, and the outer coating very diligently removed with a special knife. Utmost care must be exercised to avoid scraping of the parts beneath the epidermis which contain the aromatic principles. The "hands" are then washed again and well dried in the sun. Evidently some of the aroma of ginger is lost by decorticating. This grade is used for grinding, for culinary purposes, ginger ale, ginger extracts, ginger bread, biscuits, candies, etc. The price, of course, is higher than that of "black" ginger.



Ginger plants require nine months to mature in South India

3. The scraped ginger "hands" are sometimes bleached by treatment with sulfurous acid and liming. This grade commands the highest price because of its better appearance. It is known as "bleached" or "limed" ginger.

Liming also serves to protect the spice from mildew, weevils and other pests. It is easy to prove that the spice has been limed by placing a "hand" in a dilute solution of hydrochloric acid; the presence of chalk is indicated by effervescence. In this grade, too, a part of the flavor and pungency is lost.

BLEACHING

Ginger is exported either in bleached or unbleached form. Bleaching is undertaken only upon explicit orders for such quality from abroad. It is done by wetting the dried ginger with lime water. The ginger is also exposed to sulfur fumes in an enclosed space for about six hours. This sulfuring process is repeated three or four times until the ginger becomes white.

TRADING IN COCHIN

On its way from the growing regions in the interior to the Coast, ginger goes through the same number of hands as any other product of South India. The native grower carries the dried root to the nearest village where he sells it to a recognized small shop keeper or broker. The brokers, in turn, either sell to a larger broker or go themselves to the Coast to offer their small quantities of spice. In general practice, however, the smaller broker sells to a larger dealer who, in turn, offers the product to the established export houses on the Coast. From there the ginger is shipped either to other parts of India or abroad.

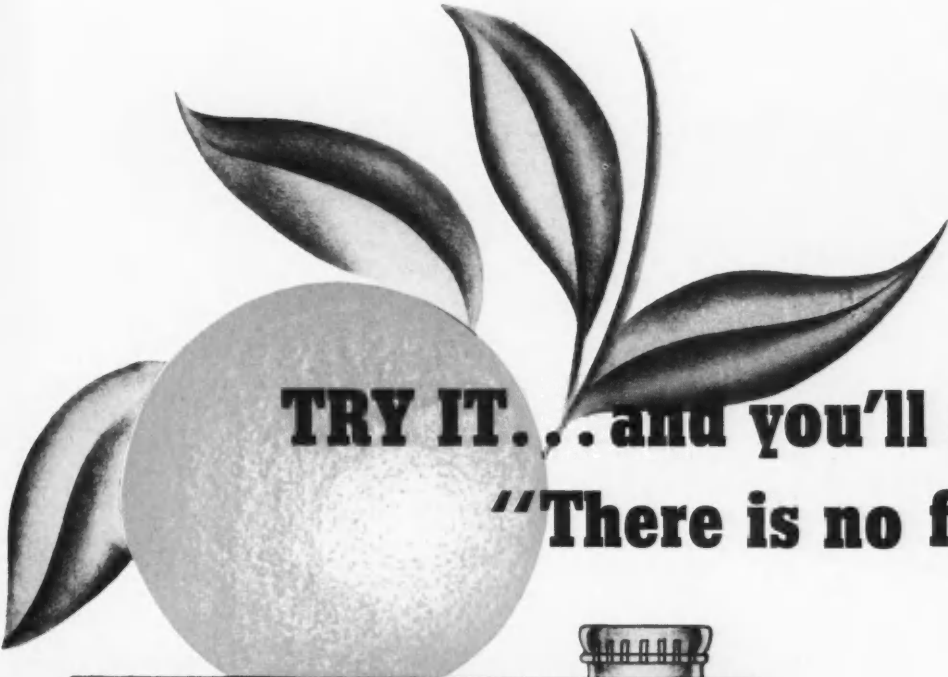
The crops start to move in January, and the bulk of the harvest should be on the market by May, before the arrival of the monsoons, because ginger weevils might damage the spice during the rainy season.

QUALITIES OF GINGER

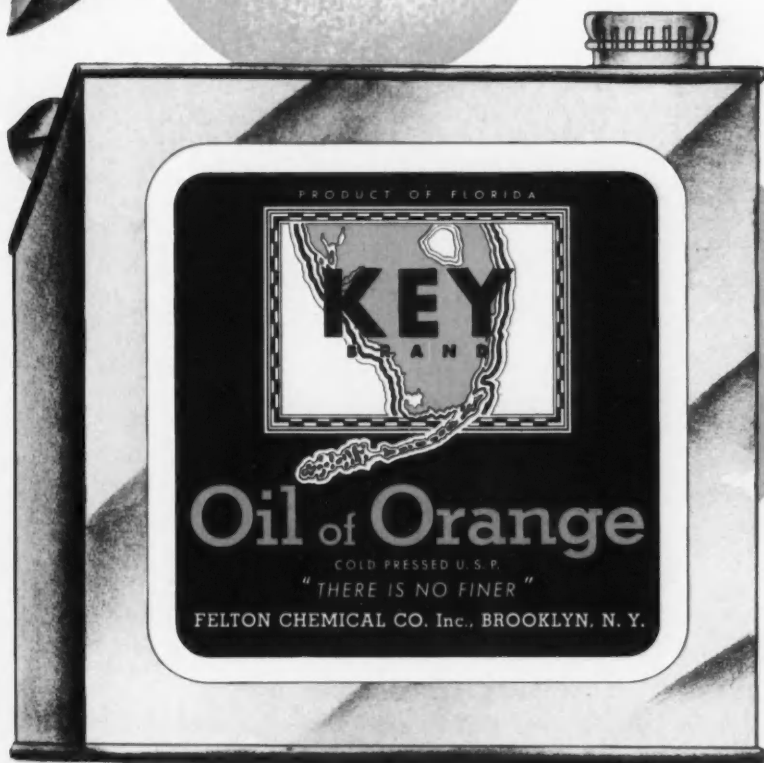
Graded according to origin, there exist several qualities of ginger:

1. Jamaica Ginger

Grown mainly in Jamaica and recently to a small extent also in Puerto Rico and Haiti, it is considered the best of all ginger qualities and, therefore, com-



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mands the highest price. The rhizomes are thin, long-fingered and of very fine flavor.

2. *Cochin Ginger*

It is grown on the Malabar Coast of southern East-India and exported from Cochin, Tellicherry and Bombay. The round, medium-sized rhizomes possess a pronounced, fine ginger flavor with a somewhat lemon-like note. Traveling through the producing regions of Travancore State, the writer was surprised to observe that ginger and lemongrass were frequently planted in close proximity.

Aside from the real Cochin ginger, production of which ranges between 1500 to 5000 tons a year, there is another grade produced on the Malabar Coast, the so-called Calicut ginger, yearly production of which is only 1000 to 1250 tons. The extent of these plantings is influenced mainly by market prices.

Calicut ginger is much bolder than Cochin ginger, and while the latter has a rather fibrous texture, the Calicut grade is very soft and of good appearance.

3. *African Ginger*

It is grown on the west coast of Africa, particularly in Sierra Leone and Liberia, the latter being the poorer grade. The rhizomes are small and round, the skin of characteristic light yellowish tint. This ginger has a strong, pungent odor and flavor, with a slight camphoraceous by-note.

Aside from these three main grades of ginger, there are others, for instance the Japanese ginger, but they lack the true ginger aroma and are, therefore, considered inferior.

The volatile aromatic principles of ginger are obtained by steam distillation. For this purpose the rhizomes are ground into coarse particles and distilled. The stills must be packed evenly so that

the steam does not form channels ("rat holes") which would result in a very inferior yield. The coarse powder must be distilled immediately after crushing, to avoid loss of oil by evaporation.

The most suitable material for distilling is non-decorticated African or Cochin ginger; Jamaica ginger is usually too high-priced for the purpose. It is advisable to use rhizomes of poor appearance but rich in oil.

Distillation is carried out with live steam; depending upon the quantity charged, it is a lengthy process, requiring sometimes up to twenty hours. The distillation waters must be cohobated. The average yield of oil varies around 2 per cent; very good root material might yield as much as 3 per cent. Higher yields are exceptional.

Oil of ginger is not distilled in the tropical producing regions but in European and American essential oil houses from imported roots.

PHYSICAL AND CHEMICAL PROPERTIES

The physical and chemical properties of ginger oil as obtained in our French and American factories from imported rhizomes varied between the following limits:

Specific Gravity at 15°C.	0.876 to 0.881
Optical Rotation	—34°24' to —42°55'
Refractive Index at 20°C.	1.4889 to 1.4912
Saponification Value	0.9 to 5.6
Color	Pale yellow to yellow

The following constituents have so far been identified in oil of ginger:

decylic aldehyde, according to F. D. Dodge.¹

Since the derivatives obtained by Dodge are not quite identical with those of decylic aldehyde, it is possible that the aldehyde found by Dodge consisted of a mixture of decylic and *nonylic aldehyde*, the presence of which was established by B. T. Brooks.² The same author³ identified:

methyl heptenone

linalool

d-borneol

acetic and caprylic esters and

a phenol, probably *chavicol*

zingiberol, a sesquiterpene alcohol of the formula



d-camphene and

β -*phellandrene*, identified by Bertram and Walbaum⁴

cineol

citral

borneol and

probably *geraniol*, identified by the Schimmel chemists.⁵

The main constituent, *zingiberene*, a monocyclic sesquiterpene with three double links $C_{15}H_{24}$, was described by Soden and Rohan.⁶

Oil of ginger is widely employed in essences for



Harvesting of ginger is similar to digging up of potatoes

¹Eighth International Congress of Applied Chemistry, Washington and New York, 1912, Vol. VI, p. 77.

²Journ. Amer. Chem. Soc. 38 (1916), 430.

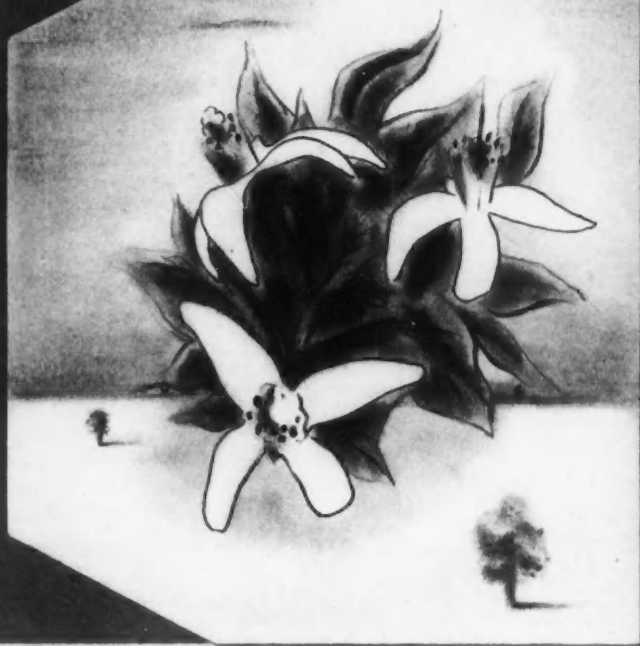
³Ibid.

⁴Journ. f. Prakt. Chem. II, 49 (1894), 18.

⁵Bericht Schimmel & Co., Oct. 1905, 34.

⁶Pharm. Ztg. 45 (1900) 414.

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flavoring ginger ales, soft drinks, liqueurs, candies, cakes and bakery products. It is also used in perfumes of oriental character, to which it imparts warm, slightly spicy tonalities.

OLEORESIN GINGER

The essential oil of ginger consists only of the volatile constituents; it does not represent the fixed, non-volatile aromatic principles which impart to ginger its "bite" and pungency. In order to obtain these in liquid form, it is necessary to extract systematically the coarsely powdered rhizomes with volatile solvents and to drive off the solvents in vacuo until finally the concentrated "oleoresin" is obtained. For the current Seventh Edition of the *National Formulary*, the use of alcohol, acetone or ether is proposed.

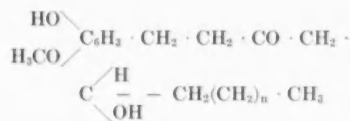
The use of the essential oil alone is not sufficient to impart the complete flavor of ginger to a beverage or food product; it should be employed in conjunction with oleoresin, thus combining the aromatic and volatile with the biting and pungent principles.

CONSTITUENTS OF OLEORESIN GINGER

The dark brown, viscous, often semi-solid concentrates, also known as "gingerin," contain a main constituent or a mixture of constituents called "gingerol" whose chemistry is extremely complicated.

It seems to be a very labile compound, easily affected by various reagents especially alkali, under the influence of which it is decomposed into saturated aliphatic aldehydes, mainly n-heptylic aldehyde and a ketone called "zingerone" (4-hydroxy-3-methoxy-phenyl-ethyl-methyl-ketone) which has been synthesized.

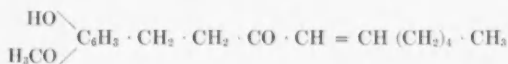
Gingerol seems to be a mixture of homologous compounds of the type:



In the main constituent of gingerol, $n = 4$; in the others, $n = 2$ or 3 .

SHOGAOL ALSO FROM GINGER

Later Nomura⁷ isolated from ginger another compound, an unsaturated homologue of zingerone which he named "shogaol." It seems to be 4-hydroxy-3-methoxy-phenyl-ethyl-heptenyl-ketone.



When zingerone is acted upon by n-caproic aldehyde, a compound is obtained which, according to Nomura and Tsurumi⁸ seems to be identical with shogaol.

⁷Sci. Rep. Tohoku Imp. Univ. Vol. VII (1918), pp. 66-77.
⁸Proc. Imp. Acad. (Tokyo), Vol. III (1927), pp. 159-160.

New Ceilings on Vanilla Beans

MARCH ceiling prices on vanilla beans have been reduced about 27 per cent by the OPA's recently established dollar and cents price ceilings. Because most vanilla beans are shipped to dealers in New York or Philadelphia, the ceiling prices are f.o.b. those cities. For maximum prices at any other port of entry, the cost of transportation to New York or Philadelphia, whichever is lower, is subtracted.

In all cases of prices listed, the data apply to the best quality of each type and grade. For those not named, the maximum prices are to be determined by applying the seller's differentials for the period July to August, 1941, or the differentials of the most closely competitive seller of the same class.

The maximum prices in dollars per pound are:

Mexican, superior to extra (prime).....	\$11
Mexican, cuts, first quality.....	10
West Indies, regular.....	10
Java, firsts.....	9.50
Bourbons, firsts.....	10
Tahiti, white label.....	6
Tahiti, yellow label.....	5.75

Vanilla Trade Eyes Madagascar

THE VANILLA bean trade is anxiously awaiting developments in Madagascar. It may be many months before any vanilla can be shipped from the island but nevertheless British action in the island served to lift the hopes of many in the trade. Demand for beans was more active and, as a result of recent sales, stocks of Mexican beans in dealers' hands have been considerably reduced. Crop prospects in Mexico are considered more favorable. Because of rains in July, it is now believed the coming crop will amount to approximately 250,000 pounds as against earlier estimates of 100,000 pounds. It is pointed out, however, that the revised estimate is still considerably below the output in 1940 which amounted to about 600,000 pounds.

Dehydrated Foods

FOR AT least eighteen months after the war, the Department of Agriculture believes, the U. S. must be prepared to feed the world's starved populations. Dehydrated foods are an obvious answer. A single Flying Fortress, converted from bomber to cargo plane, could carry enough dehydrated staples a thousand miles or more to feed a small city for several days. After the postwar emergency, dehydrators may still find a large market.

Container Inventions Increase

IT IS not new weapons of war that inventors are rushing to patent these days, but containers, says *Nation's Business*. The Patent Office's latest count showed 1,583 applicants with this type of invention, including everything from paper pop bottles to holders for false teeth.

SUBSTITUTES FOR NATURAL FLORAL ESSENCES

***The growing scarcity of natural
floral essences emphasizes the
value of high quality substitutes***

THE international situation is serving to emphasize the fact that there are countless places where synthetic floral essences can replace the natural floral products with a great deal of satisfaction and marked success.

The ingenuity of American chemists is demonstrated by the fact that American made creations not only reproduce the fragrance of the living flowers with marked fidelity and that they may be employed with complete success but that they are also *preferred* in many instances because of the uniformity in quality which they assure to say nothing of the economies they make possible.

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Soap

RUBBER CRISIS CALLS FOR MUCH SOAP



*Present synthetic rubber program will require
100,000,000 pounds of soap annually . . .
How soap is used . . . After war possibilities*

by ROSCOE C. EDLUND

Manager, Assn. of American Soap and Glycerine Producers

THE SYNTHETIC rubbers which American ingenuity has developed to take the place of the natural product call for soap in substantial quantities. The Baruch Committee has urged facilities by the end of 1943 for the production of at least 1,100,000 tons of synthetics a year. Under present processes it is estimated that the production of synthetic rubber will require annually 100,000,000 pounds of soap. The federal Rubber Reserve Co. has recognized the need of this soap by issuing elaborate contract specifications.

Rubber technicians state that soap is a highly important factor of synthetic production and that the quality of the soap used has a great deal to do with the quality of the finished product. The Baruch Committee approves the present processes of synthetic production and recommends that production under present methods be pushed forward with the greatest possible speed. A number of other processes not now on the government schedule have been investigated, the committee reports, "but it does not believe that any one of them gives sufficient certainty of producing more rubber quickly enough to warrant substituting it for processes already in the program."

THE POLYMERIZATION PROCESS

While the individual rubber companies have their own manufacturing methods, the details of which, naturally, are trade secrets, certain principles governing the use of soap in rubber making

are common to nearly all processes. Basically, this use of soap is a gradual evolution of the emulsion type of polymerization. It is a control process that has been worked out mainly in the development of plastics.

The butadiene, styrene, and other ingredients used in making synthetic rubber are mixed with a soap and water solution and placed in large closely sealed steel kettles, where they are heated and agitated under pressure. The chemical term for this is "polymerization," which technicians describe to the layman as the combining of many small molecules to form complex molecular units, like the joining of links to form a chain. The result is an emulsion, a thick milky white liquid with a physical structure similar to that of natural rubber. This liquid is referred to as "latex" and, in fact, it is similar in appearance and consistency to the virgin latex that drips from the rubber tree.

The synthetic latex is solidified by coagulating it with a dilute acid to make a curd-like material not unlike the curds from sour milk. The moisture is wrung out of these curds, under heat and pressure, in a wash operation leaving a whitish, lumpy material which has nearly all the characteristics of natural rubber as well as certain valuable qualities of its own which natural rubber does not possess. This material can be processed, rolled, pressed, molded and otherwise handled with standard rubber processing equipment.

It will be apparent that the essential value of

soap in this process is due to its wetting and dispersing action, which makes it an ideal emulsifying agent. The same property has created a huge demand for soap in a number of other industries important to the war effort, including metals, leather, textiles, and paper, to mention only a few.

These industrial uses are quite distinct from the cleansing uses through which soap performs its greatest service to mankind. The importance of soap in the field of health, sanitation, and hygiene cannot be overemphasized, but this function is generally known and appreciated. The industrial uses of soap, on the other hand, are not so well understood. The war emergency has greatly increased the importance of these uses. At the present time the contribution of soap to the synthetic rubber process and the production of glycerine represent two major national services which the soap industry is giving to the war program.

To bridge the gap before full production can be achieved under the synthetic program the United States is depending on a stockpile of natural rubber (estimated on January 1, 1942, at 535,000 tons) and on reclaimed rubber made from scrap. The Baruch Committee reports that the 400,000 tons of scrap collected this summer will yield about 300,000 tons of reclaimed, and recommends that reclaiming operations be stepped up to fullest capacity. Several widely used reclaiming processes call for soap in varying proportions. The old rubber, after being freed from foreign matter, such as cloth and metal, is ground up with water and soap and certain other chemicals and emulsified to make a milky liquid that greatly resembles the natural rubber latex.

TECHNICAL PROBLEM IS SOLVED

Technically, according to the engineers and chemists, the problem of meeting our rubber needs has been solved. Most of the difficulty and most of the cost comes in supplying the raw materials, mainly butadiene and styrene, which have to be used in the ratio of three parts of butadiene to one of styrene. These materials will be derived from the petroleum industry, in the form of refinery gases; from agriculture, in the form of grain; and from the coal industry, in the form of benzol. Regardless of the sources of butadiene and styrene, the polymerization process is being used in all synthetic rubber plants, and in this process soap is almost as necessary as the raw materials themselves.

Recent improvements in the making of synthetic rubber open interesting post-war possibilities. The new artificial rubber is said to be less durable than natural rubber for hard wear, such as truck tires, but in many other respects, for example as grease and acid resistant coatings, it is superior to the natural product. Whether the synthetic industry now being built up to meet the war emergency will make us independent of natural rubber imports after the war is at present a subject for speculation only. The important fact is that American enterprise has solved the rubber problem. The soap industry is playing a very useful part in this solution.

Soap in Lubricants

THE MODERN high-speed machinery that is making our army the best mechanized force in the world could not keep going more than a few minutes without lubrication. Bearing greases keep vital shafts true, transmission greases prevent wear of gears, special oils keep pounding parts from overheating. It is not surprising to learn that many of the different kinds of greases and oils that go into all sorts of machinery contain ordinary soap as an essential ingredient.

The addition of soap to petroleum oils has long been known to result in a solidification into a grease. The value of this characteristic alone is obvious: solids do not leak out of containers and shaft openings or spatter off from rotating surfaces as readily as liquids. More important, perhaps, is the actual improvement in lubricating and wearing properties that soap imparts to oil. Recent improvements in soap-base greases have produced lubricants which can function from frigid Russian-winter temperatures to the high operating temperatures of internal combustion engines with only a slight change in viscosity. The aviator starting his motor for a quick take-off during the winter can thank these new greases for not being so thick that the starter cannot turn over the engine; and, when his motor has heated up, his life depends on those same greases not being so thin that they leak away from the friction points.

Soap finds use in other types of essential lubricants. Most of the new ships which are being built by Uncle Sam in ever increasing numbers are launched down soaped ways. Many machine metal-working lubricants are suspensions of oil in water and soap. Soap is a common constituent of die lubricants, for stamping and wire-drawing.

Soap Dispersions Speed Production

THE ABILITY of soap to produce suspensions in water is more or less familiar to everyone. Yet how many know the vital part that such suspensions, of bitumen, waxes, rubber, artificial resins and the like, are playing in the modern industry under the stress of war production.

Of definite importance in large-scale industrial and war work is a revolutionary type of paint recently developed, which consists essentially of a suspension of synthetic resins and pigment in soapy water. This paint is non-inflammable, quick drying, and eliminates noxious vapors. Resin emulsion paints are now being used to camouflage gun emplacements, munitions depots, and large war plants. The dull finish for many army vehicles is supplied by emulsion paints.

Soap is applied to other war problems in a modern method for the preparation of building blocks from clayey soil and a bitumen emulsion. (U.S. Pat. 2,275,087.) Large numbers of field structures must be put up quickly in modern warfare, and any method which eases the strain on transportation facilities is of obvious value. In this new

process only a portable mixer-extruder and a small amount of soap bitumen emulsion need be transported. The main component of the blocks can usually be obtained from the ground around the building area. Another advantage is that the blocks dry within twenty-four hours, so that fast construction with little storage space is possible.

Asphaltic emulsions will also help alleviate the rubber tire shortage when the new "wrap-around" substitutes are ready for sale. These consist essentially of a heavy rug-like cloth coated with an asphalt emulsion, which can literally be wrapped around the worn-out tires. While the mileage obtainable from these coatings is not great in comparison with rubber treads it is reported that their use is justified by their low cost.

The Fats and Oil Industry

By CHARLES E. LUND

WITH prices frozen, overstocks of fats and oils are being liquidated, and in the past several months there has been an appreciable slackening in sales of fats and oils products on the domestic market. The slower demand has resulted in easing of wholesale prices.

The Bureau of the Census reported 2.3 billion pounds as factory and warehouse stocks of fats and oils at the end of 1941. These were above the average holdings on December 31 for the previous 5 years. There were, in addition to reported inventories at the end of 1941, abnormally large stocks of fats and oils products in the hands of the distributive and consuming trade.

The 1941 apparent domestic disappearance of 10.9 billion pounds of all fats and oils included around 600 million pounds that were used in the manufacture of overstocked products.

STOCK PILES ON FARMS

In addition to the above stocks, both reported and invisible, there is a large reservoir of fats and oils in the United States. We are engaged in the greatest livestock and oilseed production in the history of this country. The supply of breeding animals is large. We will have 10 million more hogs than ever before coming to market this year.

There will be an enormous increase in this year's production of soybeans, peanuts and flaxseed over any previous year. It will be a tremendous job to get these crops processed into oil with existing plant equipment. Likewise, meat-packing plants may have great difficulty in handling the record hog crop (and the consequent lard production) to be marketed this winter.

PROCESSING, STORING AND MARKETING

Considerable attention is now being centered upon the impending and pressing problems of processing facilities, storage capacity and other difficulties in marketing the tremendous fats and oils production expected this fall and winter.

There is now occurring a voluntary "allocation" of both the edible and inedible fats and oils. Real-

istically appraising the situation, manufacturers are regulating their stocks and purchases on the basis of 1940 usage, instead of the inflated 1941 "apparent consumption."

Soapers, particularly, are realizing that they have produced too much soap as reflected in the currently overstocked market condition. In spite of the heavy purchases of lard by the Federal Surplus Commodities Corp. for lend-lease purposes, there is an indication that there will be adequate supplies of shortening to substitute for exported lard. These supplies can be drawn both from excess shortening stocks carried over from last year and from the new production of shortening during this year. There probably will be ample supplies of vegetable oils and other materials from which shortening can be made.

WPB EXTENDS IMPORT CONTROL

Effective May 22, the Division of Industry Operations of the War Production Board took over control of imports of all known commercial fats, oils, and oilseeds.

DETERMINING MAXIMUM PRICES

An OPA order of May 21 contained specific provisions for handling cases where sellers of fats and oils are unable to determine their maximum prices under any of the five methods indicated in Revised Price Schedule No. 53.—*Domestic Commerce.*

Poison Gas Decontamination

SOAP is listed by the official publication of the Office of Civilian Defense as an essential part of poison gas decontamination equipment—25 pounds in the squad equipment; three pounds in the first-aid kit. The soap is used to remove the gas-neutralizing slurry and to wash down exposed decontaminating apparatus.

Soap Fights the Insect World

CROP-GROWERS and herd-raisers long ago found soap a useful weapon for the destruction of their greatest enemies, the insects. Destruction caused by insects can be measured in hundreds of millions of dollars. In the battle to stop this astounding loss soap is one of the most useful weapons.

Soap often is used with other ingredients to help wet the vegetation and thus permit spreading of the mixture. In many insecticides, the soap also is used to emulsify a toxic chemical in water. A recently granted patent (Australian Pat. 114,590) describes such a preparation, which is to be used for treating animals. The toxic substance is the phenolic fraction from the destructive distillation of grass tree resin, dissolved in a petroleum oil fraction, and emulsified in water with soap.

Another insecticide described recently (Jap. Pat. 129,411) is made by adding rotenone, pyrethrolone, or arsenic compounds to a neutral aqueous or alcoholic solution of lecithin and soft soap. Sodium oleate soap, as researches have shown, definitely increases the efficiency of nicotine sprays.

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Liquid Concrete of Moss (English)

Specialities M CO:

Fleur de Muguet M Co # 7

Magnolione M Co

Neroli LF

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Florenals 240—Perfumery Bases

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New Products and Processes

New tinless can

While not made available for other uses as yet, manufacturers are watching the results of the use of the new one-quart motor oil can developed by the Macmillan Petroleum Corp. Unlike other fibre oil containers, it contains no metal and does not require a special can opener. The top, bottom and spiral wound body are of a new liquid resistant fibre made from straw, waste paper, flaxseed, clay, tallow, bone, animal tissues, corn and other grains. At present the cans are manufactured only for motor oil.

Glue for fibre shipping cases

Glue for holding securely the top and bottom flaps of fibreboard shipping cases, and which is resistant to immersion in water, is offered in 50 lb., 100 lb. and barrel sized containers by the F. G. Findley Co.

Porcelain screw caps

Users of glass containers who are unable to get satisfactory closures are invited to write for details and samples of the new porcelain screw cap offered by the J. T. & A. Hamilton Co. According to the manufacturers, the caps can be made in any size to fit particular requirements and are available in gray, white and glazed white.

New paper bottle caps

Bottle caps made of several types of standard paper coated with an impervious solution that is said to make them heat-sealable, air tight and capable of holding gas charged beverages in vacuum are announced by Benschel-Brice Corp. The caps may be applied to bottles, it is stated, with usual capping machinery after a slight alteration. The chemically coated paper is also said to be useful as a substitute for tin in making food containers.

Extension handle for brushes and tools

Scraping, painting and other hand operations on places hard to reach is simplified by the Adjust-O-Handle offered by Breinig Bros. Inc. It comes in 6, 8 and 10 ft. lengths and is readily attached to the handle of a paint brush or other tool. The working angle of the tool may be easily adjusted.

Collapsible barrel

For shipping bulk material, the Planters Mfg. Co. offers a collapsible barrel which can be emptied and used again. If it is necessary to return it to

the manufacturer for refilling, it is collapsed and returned in that form to him saving freight and other costs.

Business analyzers

Have you established a predetermined net profit margin for your business? If so, do you know what your actual sales volume must be, what your variable operating costs, your total fixed operating costs and your gross profits must be in order to assure this net? The Business Analyzer can answer these and other similar questions for you, according to the George S. May Business Foundation. A limited number of Business Analyzers has been prepared which will be supplied without charge while they last, together with complete instructions, to business executives writing for them on their business stationery.

Fire hazard protection

A new all spray nozzle, offered by the American-LaFrance-Foamite Corp., which is designed to eliminate a solid stream is available for fighting fires which may develop accidentally in the manufacturing plant. The nozzle in the full curtain position provides an effective water screen to protect men and property behind it, it is stated.

Silver linings for containers

The advantage of silver as a substitute for tin as a container lining has been emphasized by the American Silver Producers Project. It points out that it is practicable to manufacture relatively low cost silver lined containers such as barrels, drums and cans as well as other containers for foodstuffs, drugs and cosmetics. Silver is resistant to alkalis, organic acids and certain concentrations of hydrochloric and other mineral acids. As most organic silver salts are free from color the objectionable discoloration of contents is eliminated. Silver is also bactericidal and may be used in contact with food. Silver too has sales appeal.

It may be applied economically to metal containers by electrodeposition on the sheet which can then be formed, soldered, etc. It may be applied from the thinnest deposits 0.0001 in. up to the heaviest thicknesses 0.05 in., with equal facility. It also has been deposited under laboratory conditions at high current densities up to 200 amperes per sq. ft., thus pointing the way to reductions in the time of "dwell" in the electroplating bath to a

fraction of common practice. The cost of silver plating depends on the metal used as a basis, the finish desired, the volume of output, mechanical equipment for handling the work and the weight of the silver deposited. The cost is about 28 cents per sq. ft. for 0.001 in. thickness. Pore free deposits of silver 0.001 in. on deep drawing steel are obtainable. Further details about this interesting metal and its possibilities may be had for the asking.

One-coat interior paint

A new paint product, called Valdura Singlekote, is announced by the American-Marietta Co. The paint is said to prime, seal and finish on any interior surface in one coat, and was formulated for maintenance painting of industrial, institutional and commercial properties. The manufacturer claims the product is suitable for interior walls of plaster, concrete, brick, wallboard, wood, wallpaper and metal.

Announcements

Color classes

Color classes for a selected number of people in industry conducted by the Allcolor Co., Inc., will begin October 13 and continue each Tuesday for ten weeks at the studio of Miss Lorain Fawcett, 527 Fifth Ave., New York, N. Y. The application of color to packages, etc., will be covered. The principles of the Munsell Notation are followed, that being the only system using the three dimensions of color. Further details about the color classes may be had by writing to Arthur S. Allen, president of the Allcolor Co. which has been conducting these classes twice a year.

Price changes in latest Fritzsche list

All price changes up to Sept. 1 are included in the latest price list of Fritzsche Brothers, Inc., 76 Ninth Ave., New York, N. Y.

Hydrogenated rosin

The hydrogenated rosin produced by Hercules Powder Co. from southern pine, known as Staybelite Rosin, is discussed in an eight-page booklet which will be sent upon request.

Terpene solvents

Properties and applications of a series of terpene solvents are discussed in a 21-page booklet just issued by the Hercules Powder Co. A copy will be sent on request.

Books to Aid You

PHARMACOPOEIA OF THE UNITED STATES. *Twelfth Revision. Prepared by the Committee of Revision and published by the Board of Trustees of the United States Pharmacopoeial Convention.* 6 1/4 x 9 1/2 in., total 968 pages, 1942. Price \$7.50.

The high and exact standards of the U. S. P. which are recognized by federal and state acts as the basis for law enforcement insure proper potency for its medicines. A long list of added items indicates the up-to-date character of the work. To meet every therapeutic need of the physician two types of supplements are issued: sheet supplements issued whenever a need arises; and a bound supplement to appear in about two and a half years which will bring the bound Pharmacopoeia up to date. The first sheet supplement is pasted inside the front cover of the present revision. A second supplement will appear soon carrying an extensive list of new basic medicines and preparations of these as requested and needed immediately for the army and navy.

A new feature to help manufacturers who are shipping medicinal substances to Latin American countries is a list of U. S. P. substances and their preparations and products in English and Spanish. Incidentally, the new Pharmacopoeia is being translated into Spanish. Under Capsules, Injections and Tablets their most commonly available and used sizes are listed. The General Notices are of importance as a guide to U. S. P. standards and legal requirements.

A total of 659 medicinal products, including 166 new drugs and medicinal preparations, is included in U. S. P. XII.

FOOD AND DRUG REGULATION. *Stephen Wilson. Introduction by Walton H. Hamilton.* 6x9 in., 177 pages. *American Council on Public Affairs.* 1942. Price: Cloth, \$3.25; Paper, \$2.50.

There is much to provoke thought in the study of food and drug regulation undertaken by the author who is professor of pharmaceutical economics at the University of Pittsburgh. In writing of the future of food and drug regulation, Dr. Wilson believes that the principles of nutrition eventually will be made mandatory on all groups through legislation. The author provides a detailed picture of the development of food regulation and analyzes its social causes and consequence. From a brief survey of the origins of food regulation in Europe he turns to

an examination of its development here. He points out that the first American food law was an act of 1883 designed to prevent the importation of impure and unwholesome tea and that this measure eventually led to other laws controlling individual food items, to state laws, and finally to the national pure food and drugs law of 1906. He reveals that the following typical conditions necessitated federal regulation of food and drugs: ten times as much Vermont maple syrup was sold as that state could produce; strawberry jelly, commonly made of glucose and timothy seed, was colored with aniline dye; herring canned on the coast of Maine was labeled in French and sold all over the country as "fine imported sardines"; colored and flavored alcohol was sold as the best whiskey; coffee was frequently mixed with sawdust, bread, and acids. Chapter headings are: Food and Defense, History of Pure Food and Drug Legislation, the Federal Food and Drugs Law, the Difficulties of Administration, the Campaign for New Legislation, the Food, Drug and Cosmetic Law of 1938, and Causes and Consequences.

NATIONAL FORMULARY VII. *Prepared by the Committee on National Formulary by authority of the American Pharmaceutical Assn.* 6 1/2 x 9 1/4 in., 690 pages. *American Pharmaceutical Assn.* 1942. Price \$6.

Standards in this indispensable work become effective Nov. 1, 1942. The outstanding features of this edition are: a completely revised and expanded chapter on materials and preparations for diagnostic use, now designated as reagents and preparations for use in the clinical laboratory; the admission of a new chapter on ingredients of reagents and preparations for use in the clinical laboratory; a complete change in the editorial style of the monographs on the chemicals and preparations containing chemicals whereby the name of the test precedes the description instead of following and the arrangement of these tests in a definite order. The editorial style of the monographs on crude drugs in the interest of clarity also improves their appearance. A scientific system of color nomenclature and the development of new and the improvement of old standards for strength, quality and purity in many of the monographs on drugs, chemicals and preparations are features. This edition contains 459 preparation monographs and 273 on drugs and chemicals. Of these 97 are new to the National Formulary and among them are 71 from U. S. P. XI. The monographs in N. F. VI not admitted to

N. F. VII number 51 of which 40 were deleted by reason of their adoption for admission to U. S. P. XII. These consisted of 40 monographs on preparations and 11 on drugs and chemicals.

LIFE WITH BABY. *A manual in photographs. Milton Fox Martin and Elisabeth Godwin. Photographs by Lawrence Madison.* 7 1/4 x 9 1/4 in., 96 pages; cloth covers; Duell, Sloan & Pearce, Inc. 1942. Price \$2.

In this skillfully compiled book the authors present to mothers a simple and interesting description of accepted basic techniques and detailed methods of procedure in caring for very young infants. It is limited purposefully to those phases which are of a practical and vital interest to those responsible for the welfare of the new born child. Instead of being burdened with technical discussions the reader is presented with a photographic description of the daily routine of the young infant. The text accompanying the pictures is concise and accurate and supplements the splendid series of photographs which in themselves convey much necessary information. The work was directed and compiled by Mr. Martin, a young father. Miss Godwin is a graduate nurse of St. Christopher's College, Tunbridge Wells, England, and the foreword is contributed by Dr. J. Taylor Howell, associate attending, Babies Hospital, New York, N. Y. Bathing, dressing, feeding and sleeping are the four subjects clearly, completely and graphically illustrated. The book promises to command a wide sale for many years to come.

NEW COMMERCIAL AND TECHNICAL DICTIONARY, English-Spanish, Spanish-English. *Antonio P. Guerrero. De Luxe edition, thumb indexed, Morocco finish, flexible binding, lettered in gold, full tinted edges.* *Chemical Publishing Co.* 1942. Price \$10.

Extensive changes have been made in recent years in the Spanish language including many new words. Each has been carefully translated in accordance with the plan of the Royal Spanish Academy of Languages and checked in every way possible. All needed modern words referring to industrial chemistry, plastics, meteorology, etc., are included and the definitions comprise as much information as possible. It is especially useful for concerns now doing or which hope to do business with Latin America. Conversion tables of weights and measures, and moneys alongside of literal translations, are included. It contains more than 50,000 words including those used in business and commerce.

AMONG OUR FRIENDS

►Lester A. Barber, of the Department of Commerce, is an outstanding example of the trained experts of permanent government offices to whom temporary officials of the civilian and war agencies increasingly put their problems.



L. A. Barber

Mr. Barber is chief of the Drug Cosmetics, Toiletries, and Allied Productions Division of the Bureau of Foreign and Domestic Commerce. The people in the toiletries, cosmetics, flavoring and soap industries, like the people in the drug lines, always go to Mr. Barber when they have problems in Washington. It is of record his telephone carries more calls originating at a distance than almost any other similar service division in the department.

There is scarcely a person in the business who does not call on Mr. Barber when he comes to Washington. He knows the answers in Washington, and by the same token he knows the answers outside Washington when the temporary war officials call upon him for help. There are few meetings in WPB and OPA and BEW and in other similar agencies, concerned with drugs, chemicals, toiletries, perfumes, cosmetics, at which Mr. Barber is not present. They turn to him for practical answers. He is forthright, vigorous, has drive and initiative, is a good administrative organizer, and knows the business. It is reasonably assured that in the impending shift in Commerce—yes, indeed, another—they will leave Mr. Barber where he is. It would be bad news for the industries which depend upon his good sense and understanding if obscure department politics shifted him "to the field."

Mr. Barber has built up an excellent organization in his division. The personnel is well integrated and functions smoothly and efficiently. It is one of the many units in the permanent old-line government agencies that works without special regard to the time schedule. Barber himself has an A.B. degree from Columbia University, and has been certificated by the College of Pharmacy of the City of New York. He was a lieutenant of infantry overseas in the World War I. He learned the practical phases of the drug and essential oil business while working with the American Trading Co., World

Wide Trading Co., Morana, Inc., Marinello Co., Ungerer & Co., and similar houses. As a selling agent he has been in business on his own representing firms manufacturing crude drugs, essential oils, perfume and flavoring materials, gums, waxes, and numerous related articles. He joined the Bureau of Foreign and Domestic Commerce in January, 1941. He became a section chief in February, 1942. He speaks French, Spanish, some German, Portuguese, and has a smattering of other languages. He loves to fish. It is traditional in Washington that he can find fish where no one else usually is able to find even a ripple.

►Dr. Eric C. Kunz, executive manager of Givaudan-Delawanna, Inc., New York, N. Y., was drafted by the Laymen's National Committee to call upon the Flavoring Extract Industry to support observance of National Bible Week, October 12-18.

►Dr. Rudolph Liszt, New York, N. Y., has developed a new camouflage cosmetic for the armed forces serving on the land. The new camouflage is said to be sunburn proof, windburn proof and adaptable to all seasons of the year. The camouflage cosmetic is supplied in a form that makes it easy to apply almost instantly. It is so compounded that it may be applied to any exposed skin areas so as to blend them into the background of any particular locality. Naturally this implies the use of various colors in this ingenious make-up.

►Dr. Ralph Bienfang, of the University of Oklahoma School of Pharmacy, Norman, Okla., has long been an advo-



Polishing up perfumer's shingle

cate of shingles for pharmacists. To illustrate his point an attractive shingle was hung in front of the university pharmacy. Because of his interest in aromatics he has listed "perfumer" as well as "prescriptionist."

►Northam Warren, Jr., who is on leave of absence from his office as vice president and sales manager of the Northam Warren Corp., Stamford, Conn., recently was promoted to a captaincy in the Army. Following a brief furlough, he returned to Fort Sill, Okla., where he is instructing in the field artillery school. Captain Warren entered



Captain Warren

military service early in the year as a first lieutenant, having taken the reserve officers' training course at Princeton University from which he was graduated in 1937. At that time he joined the Northam Warren Corp. as a salesman and later traveled as a sales and manufacturing representative to England, on the continent, Australia and New Zealand. He became sales manager of the United States business of the firm in 1939.

►Robert Sinclair of Lucien Lelong, Inc., New York, N. Y., has resigned his position to join the Free French forces in South Africa. He left late in September. Mr. Sinclair saw service with the French army during the present war and he was demobilized at the time of the armistice. Charles B. Blair now is handling publicity.

►Miss Flora Aguilera, vice president of Mary Dunhill, Inc., has announced her resignation. She has been affiliated with the firm as designer and director of sales promotion since its inception in 1933.

►Jay H. Schmidt, New York, N. Y., who recently purchased a new home in Short Hills, N. J., has also purchased a comet class sail boat, "Sea Sick II," which he will make use of in Barnegat Bay, New Jersey.

►Carl M. Anderson has been appointed executive assistant to the president of Merck & Co., Rahway, N. J. The new office was established because of the war activities and expanded business of the company. Mr. Anderson is also head of the legal department of the company.



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▶ William S. Fairhurst, vice-president of Tombarel Products Corp., New York, N. Y., and son-in-law of L. J.



W. S. Fairhurst

Zollinger, president of the concern, has enlisted in the Army as a member of the Voluntary Officers' Training Corps where he is taking a three months' basic course. Mr. Fairhurst was graduated from Pratt Institute and has been with the company ever since it was established. In view of the fact that he is the father of two children, one of whom is 11 and the other two years of age, his patriotism in enlisting is decidedly commendable. He is gifted with a charming personality and the capacity for making and holding friends, together with marked executive ability, all of which promise to be of much help to him in his military career. It is also interesting to note that Mr. Zollinger's second son-in-law, F. E. Tucker, is also in the armed services, attending the Radio Training School of the Air Corps at Sioux Falls, S. D.

▶ Leon Danco, manager of the Lucretia Vanderbilt department, McKesson & Robbins, Inc., Bridgeport, Conn., has been granted a captain's commission in the U. S. Marines and expects to be called to active duty late in October. During the last war Captain Danco was with the Belgian army from the first day of the war until the end. For two years he served in Belgium and for three years he was with the army in the Belgian Congo in Africa. Captain Danco is a brother of Gerard J. Danco, of Gerard J. Danco, Inc., New York.

▶ Milton F. Martin, U. S. Industrial Chemicals, Inc., New York, N. Y., is the author of a cleverly compiled book, "Life with Baby," which is reviewed elsewhere in this issue. Mr. Martin, who is a member of the convention committee of the TGA, is well-known throughout the industry in the East, but unknown to many of his friends he is the author of several books.

▶ William H. Adkins, who has been associated with the essential oil and allied industries for 21 years, is now engaged exclusively as a broker in drugs, gums, chemicals and essential oils with offices at 15 Central Park West, New York, N. Y. The brokerage business was started in January and has shown such splendid growth that Mr. Adkins decided to devote his en-

tire time to it. Mr. Adkins was connected with the Monsanto Chemical Co. in the West for four and one-half years handling heavy chemicals and acids; and in the East he handled pharmaceuticals, dye intermediates, flavors and condiments. Subsequently, he was buyer for Givaudan-Delawanna, Inc., for 10 years and after that served with Schimmel & Co. since 1935. His various contacts over the years have made him well-known in the trade east of the Mississippi river.

▶ Louis Spencer Levy, the brilliant former publisher of THE AMERICAN PERFUMER, who at present resides in Beverly Hills, Calif., has been visiting relatives and friends in New York, N. Y.

▶ Philip Smith, former advertising manager and director of Yardley & Co., who is the son of Cecil Smith, president of the firm, recently enlisted in the U. S. Army.

▶ Dr. C. A. Willard, deputy chief of the toiletries and cosmetics section of the Chemical Branch of WPB, has been in California where he gave a talk before the California Cosmetic Assn. on the cosmetic limitations order.

▶ Joseph Keho, president of Dorothy Gray, Ltd., reports that the firm collected a ton and a half of scrap in the current national scrap metal drive. Each employe was assigned a quota of ten pounds but at the conclusion of a three weeks' campaign, including the metal contributed by the company, there was a total of thirty pounds per employe. Money derived from the sale of the scrap is being returned to employes in the form of war savings stamps. Edward Plaut, president of Lehn and Fink Products Corp., parent company of Dorothy Gray, is a member



Joseph Keho, president of Dorothy Gray, Ltd., is congratulated by Robert Crozier, general manager of De Lisser Machine and Tool Co., who donated trucks for transporting the scrap collected by Dorothy Gray

of the toilet industries committee of the Industrial Salvage Section of the WPB.

▶ Walter A. Conklin, who has just joined Evans Chemetics Inc., New York, N. Y., as private brand contact representative, is one of the best known men in the trade in the metropolitan section. His association with several leading houses makes him well equipped to handle his new position.

▶ Karl Jacobi, of Bopf-Whittam Corp., Linden, N. J., is receiving the congratulations of a host of friends on the arrival of a son, Ralph, at the Rahway Memorial Hospital, September 18. Both mother and baby are reported to be doing very well.

▶ James C. Sasnor, son of Louis Sasnor, vice president and sales manager of Vadeco Sales Co., Long Island City, N. Y., has enlisted as a naval pre-flight cadet at the training station in Chapel Hill, N. C.

▶ David Bennett, president of Albert Verley, Inc., Chicago, Ill., and Mrs. Bennett are on a Western tour, which is taking the form of a business and pleasure trip for Mr. Bennett who is studying conditions in the industry. They are spending some time in southern California.

▶ Mrs. Sally Hansen, president of the California Cosmetic Association and president of the House of Hollywood, Los Angeles cosmetic firm, left for New York October 9, where she will spend several weeks on business, studying conditions in the cosmetic industry, among other things.

▶ Miss Dorothy Cocks, advertising manager of Lehn and Fink Products Corp., New York, N. Y., has been appointed as a consultant on the staff of the research and statistics unit, Drug and Cosmetics Section, Chemical Branch of the WPB. Miss Cocks formerly was director of advertising of the Elizabeth Arden and Marinello companies, and consultant to a number of cosmetic firms. She is a graduate of Hunter College, and attended Cornell University and Columbia University.

▶ Frank England has been appointed to take charge of the laboratory of Maurella Products Corp., New York, N. Y., manufacturers of Xandra bath preparations, Lengyel's Essence Imperiale Russe and Mastin's eye lifts, according to an announcement from Maurice Handman, executive of the company. Mr. England succeeds Laszlo Lengyel who has resigned.

NEWS FROM WASHINGTON

by ARNOLD KRUCKMAN, *Washington Correspondent*

Larger economic picture will affect allied industries

To understand the situation today in your own industry it is wise to grasp a little of the larger picture. The appointment of Associate Justice Byrnes as the economic overlord in the White House means, of course, that WPB and OPA drop to second places. They become parts of Mr. Byrnes's organization. And Mr. Byrnes himself, in his White House office, in relation to the civilian economy assumes the same incidence to the President that Admiral Leahy assumed when he became the President's overall chief of staff. Leahy functions as the military chief and coordinator under the President, and Byrnes becomes the civilian chief of staff and coordinator under the President.

Greater concentration of power in hands of President

This result of the collision between the White House and the Hill means a more highly concentrated exercise of the power focused in the President. It provides the mechanism for an overall combined command that has been missing and which obviously is necessary. It unquestionably will be perceptible in an all around tightening of the controls scattered among the various agencies. One of the most outstanding results will be the subordination of the civilian economy to the military, in WPB itself. It seems assured that Donald Nelson will go on a visit to England in November. Meanwhile Ferdinand Eberstadt, New York banker and industrialist, intimate of Undersecretary of War Patterson, who has been chairman of the Army-Navy Munitions Board, becomes deputy chairman of WPB to direct the flow of materials. Eberstadt, veteran of World War I, has the point of view of the armed services. He went into WPB for the very frank purpose of operating the machinery for the benefit of the war. Another new man is Charles E. Wilson, who left the presidency of the General Electric Co. and who has become vice chairman of WPB in charge of scheduling the materials

that are given the flow chart by Eberstadt's organization.

Army officers displacing civilians in WPB key posts

Many army officers are displacing civilians in key places in WPB and many more are expected to take other places. It is expected similar switches and shifts will take place in OPA. No one yet knows exactly what will happen to Leon Henderson. We do know that when Nelson returns from England he is supposed to continue as chairman of WPB but he is expected to devote himself to the enunciation of broad policies and to make them clear to the public in traveling around the country. His job will be public relations, in the largest sense; he will have almost nothing to do with industrial practicalities and production.

Priorities likely to be swept away; distribution by allocation

We also hear that priorities are to be swept away as swiftly as the situation permits. They now clog and clutter up the war machinery. It is proposed, under the new set-up, to go into the system of distributing materials by allocations. It is possible this system will be in operation by February. Over in England, where they are using it successfully, they make it function as follows. They created actual and theoretical stockpiles. That means they know where the materials may be had. When a man is given an order to do a certain piece of work he receives with the contract a book of warrants. These warrants in effect are checks. With his contract there has been set up for him a total asset of materials he may use to do his job. When he needs his materials he presents his warrant. When he has exhausted his materials account he cannot get more.

Take inventory of stockpile of needed supplies now

The principle of stockpiles is basic in the present war philosophy. It is the foundation of the operation of alloca-

tions. There is no question that allocations will displace priorities. With this development immediately ahead it behooves the people in the toiletries, cosmetics, flavoring and allied industries to think actively and realistically about stockpiles. No one in the Chemicals Branch or in the newly created Toiletries and Cosmetics Section of the Chemicals Branch has any apprehensions about sufficient stockpiles, nor even that the major materials used by the allied industries will be grabbed for military purposes. But there is considerable justifiable irritation over the reluctance of the industry, or some members of the industry, to proceed to formulate an inventory of the stockpile. Every industry must be prepared to present information about such stockpiles.

Those who, like some members of the cosmetics, toiletries and flavoring industry, block the effort to make the survey necessary to secure intelligent information about the potential stockpiles, are simply inviting trouble. Some day, unexpectedly, with the new emphasis on military direction, some of the armed forces will call for an unexpected and large supply of some obscure oil; and in the absence of a proper assembly of information some unadvised outsider will force the men who are responsible for the toiletries and cosmetic section to assent to an order that will freeze most of the essential oils and other materials that are abundant, and will throw the industry into confusion and derangement. This may happen even though there is an abundant stockpile of materials. An unintelligent conception of a shortage in some unimportant material, or an apparent shortage that is not a shortage but a pure misunderstanding by reason of inadequate information, may do the industry irreparable harm. It will be infinitely wiser for the industry to proceed to organize a survey of its stockpiles, with the cooperation of its friends in the WPB, and to assemble the data voluntarily, than to wait until the military minds regiment such stockpile appraisal. There is a general impression in Wash-

ington if you are ready to show that the industry has abundant stock for any unexpected demand there is little reason to fear the present situation will be changed.

Transportation problem fast becoming more serious

Another phase the industry can easily help to clarify is the study of transportation. They tell us here day by day the reports of empty freight cars are rapidly diminishing. As the space to carry freight grows less the government becomes more worried about the movement of war materiel. That is the chief reason for eliminating the cross haul. Many members of the industry are writing to Chief Willard and his associates and are telling them that abolition of the cross haul is fantastic, that it cannot be done. You may depend upon it that Chief Willard, Dr. Pacini, and the rest of them do not like the elimination of the cross haul any more than you do. But where they sit they see that it must be eliminated if the stuff needed to win the war may be transported swiftly. Just as you cannot pour a gallon out of a quart measure, so you cannot transport ten million tons in freight cars that carry one million tons. If you wish to help yourself to help the war effort and to preserve your industry, put your mind on the problem of eliminating the unnecessary use of transportation facilities. If you do not do it yourself, on your own initiative, government must do it for you, willy nilly. You may kid others, but you realize that there is considerable stuff made by the industry which rides back and forth between the producer and the merchandiser and uses transportation space uselessly. Government's point of view is that if this jockeying around with inventory amuses you in normal times, that is your business. But in these times government says the proceeding is government's business; and while fun's fun in other days, it becomes a deadly serious matter of munitions and ordnance at the right place at the right time in these days. That is where government comes in.

Means suggested for avoiding possible concentration of the industry

The other very serious aspect of this problem is that it may influence the concentration program. At this time concentration of industry and retailers is still conversation. As a matter of fact it is more conversation than it was last month. It was discovered that one of the first industrial groups "concentrated" had been literally squeezed to a standstill. Some one had forgotten that prices might freeze everything, the

chosen and the unchosen; and some one else had forgotten that a concentrated industry could scarcely operate on a high price-scale for supplies. The tangle has not yet been unscrambled. Nelson says no industry should be concentrated unless it is found that no unit of the industry can operate profitably. The military feel that concentration is essential if an industry gets in the way of the war effort.

The New Dealers feel *every* industry should be concentrated, high, low, jack and the game, regardless of its place in the economy. They believe every industry should be concentrated, probably in order that social control should be exercised over ALL business. It is quite obvious there are many friends of this industry who believe it may avoid concentration if it voluntarily helps to solve the problems of the cross haul, of saving freight car space, and if it tackles problems like the survey of stockpiles. The general idea seems to be if you keep the official eye away from your direction, and if you act normally to help the war effort, you may avoid many things that might otherwise hit you.

It is sensible to bear in mind that the military at this time are in the saddle at WPB. What they want they will want exactly as they want it and when they want it. It is reasonable to assume that if you give the assistance you may be expected to render, and give it swiftly, cheerfully, and sensibly, you will earn friendship. And if you keep out of the way and do not invite trouble, you will have little. But always remember if you have anything the military needs to make the winning of the war easier, they will take it, including your business if it is necessary. Neither goodwill nor anything else will help you in that situation.

Reorganization of Toiletries and Cosmetics Branch

Toiletries and Cosmetics Branch, under the chieftaincy of C. A. Willard, is now the toiletries and cosmetic section of the Chemicals Branch of WPB. Officially it is now known as the Drug and Cosmetics Section. The combination includes the Health Supplies Branch which was brought into the Chemicals Branch simultaneously. Health Supplies for some time had virtually been run by Fred J. Stock, formerly the head of the prescription section of the Walgreen Drug Stores in Chicago. Stock was made head of the newly combined section, and Willard was made deputy chief of the section. At the same time Turner Currens, head of Norwich Pharmacal Co., Norwich, Conn., was made chief of the Botanicals and Import Unit

which includes essential oils. Currens insists he knows nothing about essential oils, but others in the branch say that it would not be wise to let that fool you. Robert Blair, a government career man, was placed in charge of the Cosmetics Unit, although he really knows very little about cosmetics. But he does know plenty about transportation and heads the Toiletries and Cosmetics Industry Transportation Committee which had its first meeting here the middle of September. The members are Michael Harris, Max Factor, Inc.; Stuart E. Kaiser, Andrew Jergens Co.; Howard S. Lyon, Comfort Mfg. Co.; Abe Plough, Plough, Inc.; S. V. Rettino, Bristol Myers Co.; Horace Rosner, Coty, Inc.; Carl von Rohr, Burma-Vita Co.; O. D. Wheaton, Wildroot, Inc. It may be interesting to know that Blair and Willard are the only professional government men in the toiletries and cosmetic section. Another one is on the way in, Hobart Rowen, from the Office of War Information, who is expected to act as the informational bottleneck.

Working organization of Chemical Branch of importance to industry

The Chemical Branch is headed by Dr. E. W. Reid. Lawrence Brown is assistant chief. Hugh D. Hughes is chief of the Aromatics and Intermediates Section which works with coal-tar products; Donald C. Knapp becomes chief of the Transportation Section; Frank Carmen, chief of Plastics and Synthetic Rubber Section; Arthur Petersen, chief, Products Advisory Section; and James Lawson, chief, Projects, Machinery, and Facilities Section. The Chemicals Branch even has a referee board, headed by Dr. Donald B. Keyes, with Dr. Lawrence A. Monroe, Philadelphia, as executive secretary. Other working technologists of the board are Dr. W. M. Langdon, New Jersey; and Doctors Carl Monrad, A. L. Elder, C. W. Lenth, E. M. Houts, and Walter Munster of various government branches. This staff and the 12 eminent chemists and chemical engineers of the board are importantly interesting to the industry because they rule on plans submitted to use chemical materials suggested for various new war uses. Their experiments and rulings might suddenly withdraw a whole group of essential oils from civil use.

Hunting for man in flavor and spice industries for WPB post

In the toiletries and cosmetic section Dr. A. B. Pacini remains senior consultant and acts as assistant chief; Dr. Dan Dahle, who came from Food and Drug, also remains in his old place; so does John M. Williams who came as



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The American Perfumer

consultant from Allied Chemicals in New York; and Floyd Thayer, another consultant. In this section, J. T. Batson is the new chief of Biologicals and Medical Chemicals Unit; and Mark Merrell, chief, Vitamins and Agar Unit. The identity of all these men is interesting to the industry because their functions are interchangeable. Donald D. Davis, president, General Mills, is now director, Program Coordination Division, WPB. It is rumored his knowledge of food problems brought the influence of the Quartermaster General's Department to bear in his selection. There has been a hunt for a man in the spice and flavor industry to act similarly.

Clarification of L-171 amendment on samples and miniatures

Another interpretation of toiletries and cosmetic order L-171 which was issued late in September, together with an amendment to schedule 2, definitely ruled that tester or sample units distributed after July 17, 1942, free, are not regarded as marketable units under the order. The rather confusing terminology of the interpretation is explained as crediting the merchandiser with the quantity he sold in 1941, samples or otherwise, and debiting him with the quantity distributed through the same means in 1942. The new document means that miniatures may only be used as one of the regular sizes permitted by the order. The amendment defines size as including volumetric capacity of a container. The officials of toiletries and cosmetics regard the interpretation and amendment as a very distinct liberalization of the order. They suggest that powders containing no zinc oxide are now virtually unrestricted, and that mouth wash has been removed from List 3.

OPA reduces prices of spices and spice seeds below March level

Maximum Price Regulation 231, now effective, reduced prices of 33 spices and spice seeds from 1c to 50c per pound below March levels. The twelve spices and seeds which were left at established levels are cardamon, bleached, bold; cardamon, bleached, medium; cardamon, decorticated; cardamon, green; chilies, Mombasa; cumin seed, Indian; foengreek, Indian; laurel leaves, Portuguese; rape seed, Argentine; thyme, Spanish; canary seed, Argentine. Retail price ceilings were not affected. But it did relieve grinders and packers who are said to have been caught between the high costs of steeply rising freights, insurance, and scarcity of imported commodities. OPA claims after Pearl Harbor average

prices rose from 19 to 90 per cent above prices early in December, 1941. Black and white pepper were not included in this regulation. WPB about the same time issued an order placing food and medicine manufacturers and manufacturers or processors of other products on the same footing in securing quotas of spices. The basis is now quarterly instead of monthly. The quota control also is extended to retailers, restaurants, manufacturers, who use less than 50 pounds per month. Firms with subsidiaries or more than one store may compute on an aggregate or separate unit basis. Packers deliveries to other packers or to bulk dealers are exempt. Quotas may be carried over from one quarter to another, and any person may borrow against the next quarter's quota. White pepper quotas may be used for delivery or acceptance of black pepper.

Specifications for denaturants in specially denatured alcohol

Bureau of Internal Revenue under Title 26, Regulation 3, with appendix, on pages 7187 to 7198 of the *Federal Register*, Sept. 12, 1942, presents numerous formulae involving completely and specially denatured alcohol. The formulae involve perfumes and fixatives, solvents in the manufacture of toilet manufacture; hair and scalp preparations; shampoos; toilet soaps and bath salts; bay rum; face and hand lotions; body deodorants and deodorant creams; theater sprays and incense; tooth paste and tooth powder; methyl violet; oil of wintergreen; oil of cassia; oil of cloves; oil of peppermint; oil of bay rum; oil of bergamot; oil of bitter almonds; oil of cedar leaf; oil of citronella; oil of eucalyptus; oil of lavender; oil of mustard; oil of lime; oil of rosemary; oil of sassafras; oil of spearmint; oil of thyme; mouth washes; and other combinations and ingredients used in cosmetics and toiletries. Specifications for deodorants are given. The publication, Volume 7, No. 180, may be seen in almost any public library; or a copy may be had by sending 10c silver, no stamps, to the Superintendent of Documents, Government Printing Office, Washington.

Fats and oils limited to create a stockpile

To create a stockpile, WPB late in September put an overall limitation on the use of fats and oils. Soap, not including that made from domestic vegetable oil "foot," was given a quota of 90 per cent. Vegetable oil foots may be used up to 119 per cent of the base period consumption. Manufacturers using less than 6000 pounds fats and

oils in a quarter are exempt. The order is retroactive to Sept. 1. Estimate of total fats and oils production for the year ending July 1, 1942, is 11,600,000,000 pounds, of which 2,000,000,000 pounds is made into soap. We imported 1,000,000,000 pounds less than last year. In September also WPB froze 25 per cent of all inventories of coconut, babassu and palm kernel oils in the possession of those having on hand 240,000 pounds or more. The order froze 25 per cent of future imports.

Cross haul regulations under discussion

Cross haul regulations under discussion generally followed the pattern adopted for shipment of sugar which is restricted within nine zones. This means merchandise must originate and terminate transportation within the zone. Actual regions or sections have not been crystallized in toiletries and cosmetic discussions. Here are examples, however. A, for instance, on the East Coast, might subcontract with B to manufacture and distribute A's products in B's territory. In return, B may do exactly the same for A. The same practice might be followed by private label houses in relation to smaller houses. This plan, roughly outlined as it is given here, is in essence the way the minds here run. It appears to form a combination of cross haul elimination and modified concentration.

No limit on hand protective production for war plants

Chief Willard of the toiletries and cosmetic section says there is absolutely no limit to the quantity of hand-protective creams designed for protection from industrial hazards in war plants that may be produced, subject to any incidental restrictions. This type of cream is not included in the order limiting production of cosmetic creams. But it must be definitely and specifically the industrial cream, identified by label, by compound, by sales appeal and other qualifications as the product intended for use of war workers.

Miscellaneous items of news from the nation's capital

Burton J. Howard, chief, Micro-Analytical Division, Food and Drug Administration, at the age of 70, retired after 41 years service. . . . Dr. W. W. Skinner is acting chief, Bureau of Agricultural Chemistry and Engineering, which includes the section devoted to drug and aromatic plants at Beltsville, Md. . . . Federal Reserve Board reports July retail cosmetic and toiletries stocks increased 70 per cent over July, 1941.



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NEWS and EVENTS

Collapsible tube conservation order amended Oct. 5 by WPB

The tin content of toothpaste and shaving cream tubes has been reduced by an amendment of Oct. 5 to M-115. Tin in toothpaste tubes must be reduced from 7½ per cent to 5 per cent. The tin content in shaving cream tubes is cut from 7½ per cent to 1½ per cent. The only exception is blanks for tubes of 7½ per cent tin content which had been completed by Oct. 5. Tubes for solutions for hypodermic injections and pile pipes are removed from the Class 1 list by the amendment. This list includes products for which no tin restriction is imposed. Collapsible tube manufacturers or users who desire a complete copy of M-115 as amended should write to the War Production Board ref M-115, Washington, D. C.

L. and G. Lengyel to launch new perfume line

Laszlo and Georges Lengyel, perfumers of New York City, have severed their connection with Maurella Products, Inc. (Morris Handman) which operate under the trade name of Parfums Lengyel or Lengyel. Plans about launching a new perfume line under the personal direction of Messrs. L. and G. Lengyel, New York, N. Y., will be announced at a later date.

Specifications for denaturants and formulas for S.D. alcohol published

Specifications for denaturants and formulas for especially denatured alcohol with permitting uses are given in full in Title 26, Regulations 3 of the Bureau of Internal Revenue published in the Federal Register September 12.

Salvage drive in cosmetic industry nets 352,942 lbs.

The salvage drive undertaken by the Industrial Salvage Committee for the cosmetic industry, of which H. L. Brooks, president of the TGA is chairman, has resulted in a highly gratifying collection of useful material for the government to date. The industry in the metropolitan area has collected

the following: Iron and steel, 135,827 lbs.; non-ferrous copper, brass, tin, zinc, lead, etc., 15,158; rubber, 494, and paper, rags, etc., 202,461. The total is 352,940 lbs.

Latin-American section of N. Y. Board of Trade luncheon Oct. 21

The newly formed Latin-American section of the New York Board of Trade will sponsor an inter-American luncheon at the Waldorf-Astoria Hotel, New York, N. Y., October 21. The speaker will be Wayne C. Taylor, under-secretary of Commerce. The section was organized in September for the purpose of further increasing inter-American trade and friendship. Present members of the Board of Trade, including those who are members of other sections, are invited to participate in the activities of Latin-American group.

R. E. Sage Co., Inc., announces removal of offices

R. E. Sage Co., Inc., suppliers of extracts, emulsions and bottlers' supplies, announce the removal of offices and laboratory to 8 Everett Street, Natick, Mass.

Packaging Institute conference at New Yorker Hotel Nov. 5 and 6

The Packaging Institute is to hold a conference November 5 and 6 at the Hotel New Yorker, New York, N. Y. The tentative program includes addresses by Joel Y. Lund of the Lambert Pharmacal Co., St. Louis, Clifton Cox of the War Manpower Commission, Ellen M. Davies of Chase Brass & Copper Co., Waterbury, Conn., and a Questions & Answers Session headed by Charles Sheldon of WPB. In addition to the conference the collection of war-time packages by A. S. Allen will be displayed.

J. B. Williams' employees get another bonus check

The J. B. Williams Co., Glastonbury, Conn., has again awarded a bonus check to all employees who have been in its employ three months or more. The latest award was made September 25.

Chemists discuss glycerine recovery at Chicago meeting

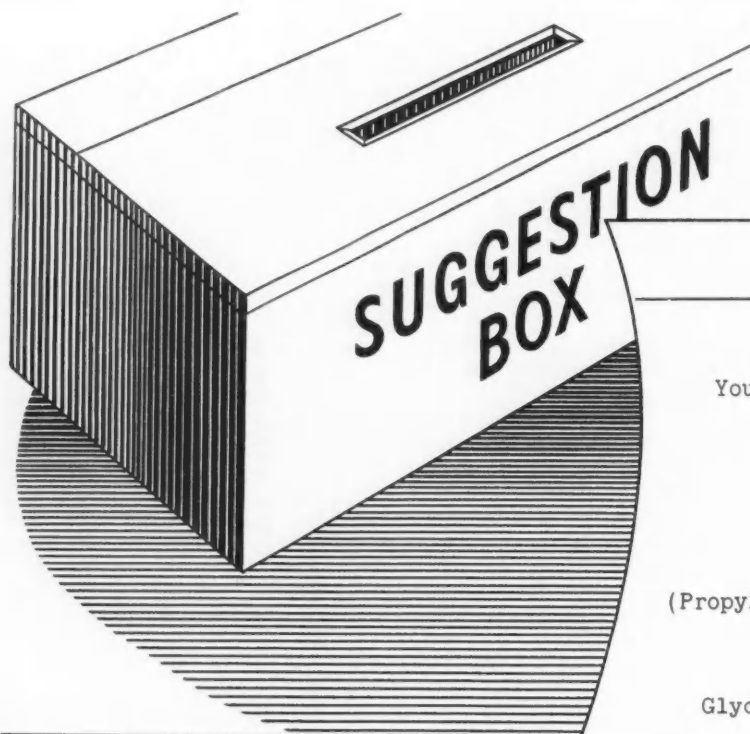
The sixteenth fall meeting of the American Oil Chemists' Society was held in the Drake Hotel, Chicago, Ill., October 8 and 9. The soap and glycerine section, conducted by F. D. Snell, heard a number of technical papers, followed by a roundtable discussion of soap and glycerine and the war effort. Of particular concern were problems in connection with increased glycerine recovery.

Prompt action may save differential in alcohol tax

Opposition of the Treasury to the Tydings amendment on the alcohol tax which would permit a drawback of \$3.75 per proof gallon for those using ethyl alcohol for non beverage purposes may possibly be overcome. Opposition of retailers who are against the \$100 licensing provision of the amendment likewise may be overcome if the Tydings amendment is modified to reduce the tax drawback from \$3.75 to \$2 per proof gallon (the amount of the proposed increase in the alcohol tax) and the licensing provision is modified as follows: \$10 per year for any person not using more than 25 gallons; \$50 where the amount does not exceed 50 gallons; and \$100 where the amount is above 50 gallons. This drawback would permit retailers to pay in accordance with their actual consumption and would be more equitable. The Drug, Chemical & Allied Trades Section of the New York Board of Trade has suggested that members immediately write to their representatives in Congress supporting the foregoing modifications.

Merck School offers subjects essential to war effort

The Merck Training School, sponsored by Merck & Co., Inc., Rahway, N. J., has started classes in subjects essential to the war effort, according to an announcement by the company. All employees have been invited to attend the classes, although enrollment is entirely voluntary.



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Ferdinand Ruggiero, Inc., moves to Brighton, Mass.

Ferdinand Ruggiero, Inc., manufacturer of creams, has moved from 111 Summer St., Boston, Mass., to 3 Brackett St., Brighton, Mass.

Dr. Guenther sees trade benefit from action in Madagascar

Several months ago, when British forces seized the important naval base of Diego Suarez on the northern tip of Madagascar, Dr. Ernest S. Guenther, chief research chemist of Fritzsche Brothers, Inc., called the trade's attention to the possible advantages to the entire industry should the Allies exert complete domination over this richly productive French possession. At that time, however, the Allied forces were apparently content with their acquisition of a valuable naval base and the expected benefits of additional raw material exports from the island proper did not materialize.

Now, however, the Allied offensive has been resumed, this time with evident intention of gaining the hoped for domination of at least a substantial part of Madagascar. While such occupation would be for strategic reasons and not for exploitation, Great Britain having pledged return of the island to France after the war, still virtual control of its productive facilities would be in Allied hands, and at their discretion, present restrictions on the sale of the island's output could be lifted to accommodate friendly nations in need of Madagascar's raw materials.

It seems not unlikely, therefore, according to Dr. Guenther, that this country's users of flavoring and perfume materials may yet benefit by the offensive action now in progress on this fourth largest of the world's great islands. The likelihood of Madagascar's ylang ylang, lemongrass, palmarosa, champaca, clove and vanilla again reaching American markets may soon hinge upon the effectiveness of naval protection in bringing these cargoes to our shores.

FDA holds hearing on coal tar color law amendment

A public hearing was held September 15 by the Food and Drug Administration to amend the provisions of the law affecting coal tar colors.

Wholesalers' responsibility to save retailers, says F.W.D.A.

It is the wholesalers' responsibility to preserve the drug retailer and assure his existence in the difficult days ahead by assisting him in every way possible to weather the period of complete re-

adjustment necessary for survival according to the Federal Wholesale Druggists' Assn. which met in New York City September 24. Robert W. Burns of OPA spoke on prices and Northam Warren of Northam Warren Corp. made an excellent address on cosmetics in the marketing in war-time symposium.

Brooks and Mayham guest speakers at Allied Assn. meeting

Herman L. Brooks, president of the Toilet Goods Assn., and S. L. Mayham, executive secretary, were guest speakers at a special meeting of the toilet goods industry in the Detroit area at the Detroit Leland hotel, Oct. 14, held under the auspices of the Allied Drug & Cosmetic Assn. of Michigan. Questions which are perplexing manufacturers were answered and some interesting films of the black market operations in Great Britain were shown. The meeting was preceded by a dinner at which the usual atmosphere of good fellowship prevailed.



H. L. Brooks

Two Sunday newspapers feature research work of Charles V. Sparhawk

Charles V. Sparhawk, the essential oil veteran who has done much interesting work in deriving basic raw materials from muskrats and skunks, was recently made the subject of a profusely interesting article in the Albany (N.Y.) *Sunday Times Union* and the *Boston Sunday Post*. Both articles gave a resume of the long and tedious research



A corner of Mr. Sparhawk's office

by Mr. Sparhawk in discovering, extracting and making usable the perfume principles which he found in skunks. Naturally they are written from a popular standpoint but despite this both articles contained information of interest and value to those engaged in the industry.

Since undertaking this development Mr. Sparhawk's business has shown steady progress and improvements have been made in the plant and offices at Sparkill, N. Y. The accompanying illustration shows a corner of Mr. Sparhawk's office.

Halitosine Co. is penalized for exceeding alcohol quota

The Halitosine Co., St. Louis, Mo., manufacturer of mouth washes, rubbing alcohol and other similar products, is penalized for the acceptance of restricted alcohols in excess of the quantities established as its quotas by General Preference Order M-30.

Suspension Order S-92, announced today by the War Production Board, charges that the Halitosine Co. took deliveries of approximately 1900 gallons of ethyl alcohol and 1800 gallons of isopropyl alcohol in excess of permitted amounts during the first calendar quarter of 1942. The penalty order reduces the company's normal quota for the coming three months by 150 per cent of the amount which it had accepted illegally.

Fear of vital economic changes expressed at N.W.D.A. meeting

The National Wholesale Druggists' Assn. at its annual meeting in New York September 28-29, listened attentively to the suggestions of Lee Wilson Hutchins retiring president, who advocated that the association fight aggressively any tendency to eliminate small distributors from either the wholesale or retail drug distribution. He also recommended that manufacturers recognize the need for the elimination of many slow-moving items or sizes and lend their support in all lawful ways that will attain that end.

George Van Gorder, vice-president, McKesson & Robbins, Inc., was elected president of the association, to succeed Mr. Hutchins.

California firm now in airplane work

The Robert H. Clark Co., Los Angeles, Calif., cosmetic and toiletries firm, has turned over a part of its plant to the manufacture of airplane parts. It is still in a position to take care of its trade, however, it was announced.

"AD INFINITUM" MAY CLOSELY EXPRESS THE NUMBER OF ODOR NOTES AVAILABLE TO THE PERFUMER FROM THE NEVER-ENDING LIST OF AROMATIC ORGANICS. THESE UNLIMITED POSSIBILITIES CAN CAUSE A CONFUSING PROBLEM WHEN A DEFINITE PERFUME SHADE IS MOST DESIRED, AND DELAYS IN THE FINISHING ARE THE RESULTS.

IN COMPOSING A PERFUME BASE, THE PERFUMER TRIES TO EXPRESS A PRECONCEIVED IDEA THAT OFTEN BECOMES CONFUSED BY THE DETAIL INVOLVED IN THE FINAL BALANCING. OFTEN THIS IS QUICKLY ACCOMPLISHED /BY FIRST DETERMINING THE MOST URGENT NEED.

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<i>Does It Need</i>	<i>We Suggest</i>	<i>Because</i>
A TOUCH OF MODERNITY?	CUIR DE MAROC B. A.	IT ADDS A PLEASING LEATHER ODOR.
A SWEET JASMINE EFFECT?	JASMINE 100	IT PRODUCES A FINE ODOR CHARACTER.
MORE DEPTH?	ANIMONIS B. A.	IT ALSO ADDS A NOTE OF MYSTERY.
MORE LIFT?	BERGAMYL B. A.	IT DOES ALL A NATURAL OIL WILL DO.
ROUNDING OUT?	ANASTOL	IT IS A NEW PRODUCT OF REAL MERIT.
A LOW FLOWERY NOTE?	ANISALIDE B. A.	IT SUPPORTS THE HIGHER NOTES AS WELL.
A LIGHT FLOWERY NOTE?	CYCLAMYL B. A.	IT ADDS A LILY AND LILAC CAST.

Ferdinand Weber completes fifty years' service with Lueders & Co.

Ferdinand Weber, first vice-president and treasurer of George Lueders & Co., Inc., New York, N. Y., completed fifty years of service with the company on October 3. Mr. Weber is the third member of the organization to reach the half century mark with the company, the others being Edward V. Killean and the late Jacob Gundlich.

The event was celebrated with a dinner in the east ballroom of the Hotel Astor with about ninety members of the organization present. Included in the party were Robert Emmett Desmond, manager of the San Francisco branch; William F. Kammerer, manager of the Chicago branch; also George Sroka of the Chicago office; Wilfred Beauchamp, manager of the Montreal branch; also J. C. Weiler of St. Louis and William F. Kiefer of Philadelphia.

The directors of the company presented Mr. Weber with a very handsome pair of diamond studded cuff links and from the employees he received a set of traveling bags.

Mr. Weber arrived in this country in September, 1892, and soon thereafter entered the employ of George Lueders, founder of the business. According to pre-arrangement he was later admitted to the newly formed partnership, George Lueders & Co., which included George Lueders and Henry J. Heister. In 1906, when the present corporation was organized, Mr. Weber was elected director and also vice-president and treasurer, which offices he has held continuously for thirty-six years.

Beauty shop reaches success through cosmetic sales

The Junior League Beauty Salon of Winston-Salem, N. C., is a conspicuous answer of the success which comes to a beauty shop which makes a concerted effort to sell cosmetics. The shop is operated by Mrs. Virginia Rice and is equipped like most other well-arranged beauty salons for giving all types of beauty treatments.

With all the various beauty services, however, none has succeeded like the cosmetic department. The reception room has an effective display of cosmetics. Operators are trained by the salesmen of the manufacturers and sales of cosmetics average \$300 per month.

Emergency meeting of English toiletries group draws well

An emergency meeting of the Cosmetic and Toilet Preparations Assn. of Great Britain held recently in London was

well attended by members from the provinces as well as from London. The value of the service that a virile association may perform for members of the industry was emphasized by Archibald Crawford, K.C.

R. L. Demuth, a member of the committee on the future aims and aspirations of the association, stressed the need for the association to work for the general good of the industry, and hoped that the committee would always be composed of broad and diverse interests in the trade.

The association should have two distinct aims: to keep constant watch on conditions and legislation affecting the industry and to exert a healthy influence on the future. Its policy should include cooperation with related bodies on matters of common interest; consideration of the essential part to be played by the industry during war by making constructive suggestions to this and to the government and to make constant efforts to insure that any concession granted by the government should be impartially shared by the industry.

Income to Canadian government from cosmetic tax increasing

Even though cleansing and beautifying agents escaped any additional tax in the recent budget, the Department of National Revenue of Canada is doing very nicely by the sale of these personal commodities. Estimates are that the 25 per cent tax on toilet soaps and cosmetics in effect since April 1941 will bring into the coffers of His Majesty's government better than \$3,500,000 by the end of the present fiscal year. Before the tax was increased to 25 per cent or from 1933 when a 5 per cent tax was placed on toilet soaps and 10 per cent on toilet preparations, these tax returns have shown an increase in each succeeding year.

Fats and oils importers to act for CCC in handling products

The Emergency Group for Foreign Vegetable Oils, Fats and Oil-Bearing Materials, formed September 30 in New York, N. Y., will act as the exclusive agent of the Commodity Credit Corp. in importing and handling fats and oils for war needs. About 150 importers of these products attended the organization meeting. Speakers were J. B. Hutson, president of the Commodity Credit Corp., and Leon Falk, chief, fats and oils section of the Board of Economic Warfare.

Contracts already have been signed for the importation of more than 250,000 tons of approximately twenty dif-

ferent oils and oil-bearing materials. The total volume of business for the year will depend upon shipping developments, according to Mr. Hutson. Fees paid the importers are to be commensurate with what it would cost CCC to perform the same functions, stated Mr. Falk.

The following were elected members of a management committee to represent the new organization in its dealings with the BEW: Irving R. Boody of Irving R. Boody & Co., chairman; Joseph C. Smith, Smith Weihman & Co., treasurer; W. Alderson, Zimmerman, Alderson & Carr; W. A. Dow, S. L. Jones & Co., San Francisco, and J. H. Redding, J. H. Redding & Co.

Highest salaries paid in cosmetic and soap industries

Highest salaries paid by corporations to individuals in 1940, released by the U. S. Treasury, show three in the higher brackets in the allied soap and cosmetic industries. Syma and Alfred Busiel of Lady Esther Co., Chicago, Ill., each received \$96,000; and Francis A. Countway of Lever Bros. Co., Cambridge, Mass., \$438,778.

BIMS end golf season at Ridgewood Country Club

BIMS of New York closed the 1942 golf season at the Ridgewood Country Club, Ridgewood, N. J., on September 22 with 100 members and guests in attendance for the golf tournament and dinner. In presenting the prizes to the winners following dinner, Martin Schultes, chairman of the New York BIMS, stated that there might be no further golf tournaments for the duration of the war and that the Ridgewood gathering could conceivably be the last meeting for several years to come. However, several dinner meetings will be held in New York during the coming winter, dates to be announced later.

Among the day's low scorers were Paul A. Dunkel, Louis Bezard, and Ralph M. Stevenson for the members, and Herbert Parker, guest of Harry Heister. Other prize winners included Ira P. MacNair, Theodore M. Hanlon, C. B. Robbins, Harry G. Griffiths, Geo. P. Dunn, Harris Whitaker, Russell Boland, O. Dexter Neal, Walter L. Fretz, Thomas Morgan, Lee Clemer, Robert C. Spencer, William F. Zimmerman, William Haebler, Everett Proops, Walter S. Nuckols, Albert C. Burgund, W. Van Alan Clark, William H. Green, Joseph F. Kelly, Harry Heister, Herbert T. Georgi, Walter Smith, Peter L. Forsman, Irving S. Goodwin, C. R. Keeley, and Charles W. Darr. All prizes were war stamps.



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- ✓ Laboratory Controlled chemical and physical characteristics
- ✓ Better quality—at a saving.

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CONCENTRATED SHAVING CREAM BASE

JOHN POWELL & Co.

112 East 32nd Street,
New York City.

Obituaries

Dr. James M. Doran

Dr. James M. Doran, head of the Distilled Spirits Institute from 1933 to 1938, died September 8 in Washington, D. C., after a long illness. He was 57 years of age. Dr. Doran was born in Grand Forks, N. D., was graduated from the University of Minnesota and went to Washington in 1907 as a chemist with the Bureau of Internal Revenue. Later, he was chief chemist. In 1920 he became chief of the Industrial Alcohol and Chemical Division of the Prohibition Unit of the Bureau and in 1927 he was appointed Commissioner of Prohibition. From 1930 to 1933 he served as Commissioner of Industrial Alcohol.

He is survived by his widow, Mrs. Roxana Brook Doran; a son, James, Jr.; a daughter, Frances, and his father, Rev. Frank Doran of St. Paul, Minn.

Dr. Doran was known widely throughout the nation and he was held in high regard by all with whom he came in contact because of his sterling traits of character and his friendliness. He believed in the unrestricted use of alcohol for industrial purposes, and for food and drugs. His counsel and

advice were sought by many and his helpfulness will be missed by all concerned with the alcohol industry.

Harry V. Wallace

Harry V. Wallace, vice-president and director of sales of the Kimble Glass Co., died at his home in Vineland, N. J., during the night of September 15.

Mr. Wallace was born June 28, 1894, in Sulphur Well, Ky., but spent his boyhood in Wenatchee, Wash. He had been working in power plants in that region and studying when he could find opportunity at the University of Oregon when he enlisted in the U. S. Marines in June, 1917, serving throughout the war.

After experience in the sales field with the Socony-Vacuum Co. and the Owens-Illinois Glass Co., Mr. Wallace joined the Kimble Glass Co. October 1, 1931, as Chicago branch manager. In January, 1939, he was transferred to the main office of the company in Vine-



Moffett Studios
H. V. Wallace

land, N. J., and on June 7, 1939, he became vice-president and director of sales.

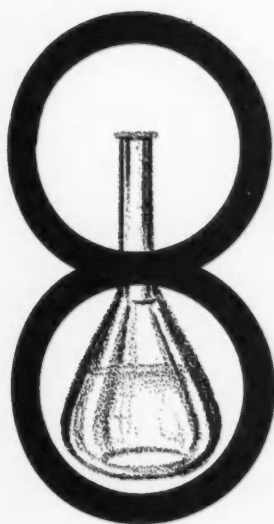
Late in January, 1941, Mr. Wallace was stricken with coronary thrombosis. Though severely ill for more than a year, he apparently was rallying remarkably and had even been spending some time at his desk in anticipation of resuming his duties, when death intervened suddenly.

I. W. England

Isaac W. England, vice-president of the Continental Can Co., New York, N. Y., died Sept. 18 of a heart ailment at Glen Springs, N. Y., where he was spending his vacation. He was 68 years old.

During the Spanish-American war Mr. England established the American Compressed Food Corp., where food for the American army was canned. In 1912, he founded the Passaic Metal Ware Co. and was its president until 1928, when it merged with the Continental Can Co. Since that time, Mr. England as vice-president, had taken an active part in the company's affairs, more recently in connection with the firm's activities in Washington, D. C.

He is survived by his widow and two sons, all of New Jersey.



Reasons Why **PLYMOUTH** **ZINC STEARATE U. S. P.** **IS BEST FOR DRUGS AND COSMETICS**

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2. Years of research have made possible a particularly white product

3. Special production methods . . . developed over more than a quarter of a century . . . have made it **ODORLESS**

4 It will not develop offensive odors even it kept for a long period.

5. It enables your face powder to retain the same odor that you give it.

6. A smooth, light, fluffy texture has been finally and **definitely** achieved.

7 Tested independently it shows the following results: **ARSENIC** (Gutzeit and Spectrographic Test) . . . Not Found. **LEAD** (Spectrographic Determination) . . . 1.7 parts per million.

8. The reputation and record of M. W. Parsons assure you of Uniformity in all shipments.

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INDEX TO A PERFECT BATH CRYSTAL BASE

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- ➡ **FOR SALES APPEAL**—Snowflake Crystals have that: Tiny, beautifully delicate crystals that women can't resist!
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- ➡ **FOR DETERGENCY**—Snowflake cleanses the skin. Makes soap clean better!
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A special bulletin tells you the details on how simple and easy it is to perfume and dye Snowflake Crystals for bath crystal base. Don't miss this profit making opportunity . . . **SEND FOR THIS BULLETIN NOW! FILL IN THE COUPON TODAY!**

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To regulate inventories of wholesalers and retailers

The WPB has approved a plan to regulate inventories of finished civilian goods in the hands of wholesalers and retailers. Eaton V. W. Read is chairman of the committee in charge of the work.

Alien Property Custodian vests interests in Rohm & Haas

Enemy interests in Rohm & Haas Co., Philadelphia, Pa., and in the Resinous Products & Chemical Co. have been vested by the Alien Property Custodian. The vested property amounts to 37 per cent, or 18,801 shares of \$100 par value, common capital stock of Rohm & Haas and 28 per cent, or 5640 shares of \$100 par value, common capital stock of Resinous Products.

Trade Jottings

Luxor, Ltd., has issued a booklet "Make the Most of Luxor Powder Sachet" which suggests to readers the various ways in which sachet may be utilized. Members of the firm's consumer jury have contributed a number

of ideas for the use of sachet. It comes in three odors, La Richesse, Vision and American Beauty. The company states that because Luxor powder sachet contains no critical materials, the WPB has ruled that it may be produced in unlimited quantities.

Revlon's new shade in nail enamel and lipstick is the Mrs. Miniver Rose. There is a new jacket for the carton, bright red lettering and borders against a gray background. The lipstick is offered in a new plastic case, the color and style similar to those of the firm's metal containers.

Lentheric's current packages include several designed to meet the shortages of various materials. There are new plastic vanities, single or double, with gold-lined covers; crystallite shaving bowl and matching container for after-shave powder, also oak shaving bowls and after shave powder containers, sterling silver vanities. Wooden caps used previously for the Tweed odor and some men's products are being substituted on many of the Lentheric flacons as the supply of metal caps is exhausted.

Harriet Hubbard Ayer has issued a chart which shows the economy of buying its Victory sizes. For example, the contents of five one-dollar size jars is

just about equal to a \$3.50 Victory size of cleansing and conditioning cream or the contents of six jars of the firm's special skin cream or face cream is about equal to the Victory sizes. Purchase of the Victory sizes saves packaging and packing materials, shipping space, etc.

Tussy's new make-up shade is designated Jeep Red. It is available in cream and compact rouge, nail polish and lipstick.

Lucien Lelong newest soap is a pine odor. Three green cakes molded in the same design as the other odors are packed in a box.

Parfums Charbert offer a gift combination of a flacon of perfume and a drumbottle of cologne in the same scent, nestling in ivory satin and encased in an ivory box outlined in gold. Each odor is available in four sizes.

Northam Warren's Cutex gift sets include the match book which holds nail polish, cuticle remover and polish remover, all in tiny sizes. The carton simulates a book of matches, with a canine design on the cover.

Dorothy Gray's Smiling Red make-up is offered in lipstick, cream and compact rouge, and nail polish.

That extra something in Sherwood products is the know-how of CONTROLLED SPECIALIZATION.

*White
Oils*

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Made from the world's finest
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Bleached by sun and air—nature's
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And because of its superior quality
you can use less and still get a
finer finished product. Guaranteed
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SYRACUSE, NEW YORK

Spermaceti Ceresine Yellow Beeswax
Composition Waxes Red Oil Hydrated
Stearic Acid



Madagascar News Heartens Dealers

MARKETS were somewhat more active over the past month. The volume was not as large as in the first four months of this year but many houses seemed considerably more encouraged by the appearance of a larger number of orders than at any time in the past several months. Despite war time regulations and restrictions the upturn in trade was quite noticeable and the trade generally is looking forward to a reasonably good demand for various raw materials over the remainder of the year.

A development of importance to essential oil dealers and vanilla bean importers was the determination of the British to wipe out Vichy French control of the island of Madagascar. The venture tended to raise the hope that ultimately products of the island will again reach this market. It also was believed that the British action eventually would bring the island of Reunion under the control of the United Nations.

PARITY PRICES FOR MINT OILS

Mint oils were included in the list of "comparable" prices of seventeen commodities specified by the Department of Agriculture as a result of investigations made under authority of Section 3 (b) of the price control act. In calculations of price ceilings under the act of new anti-inflation legislation the prices will be considered in the same manner as are parity prices for other commodities. The parity price determined on peppermint was \$3.10 and on spearmint \$2.28 per pound.

ESSENTIAL OILS SHOW FIRMER TONE

While the trend of the essential oil market was downward throughout the early part of the period under review, a

decidedly firmer tone developed toward the close as the result of an improved demand. Some houses could not understand why prices declined during the early part of the period, especially since some of the changes affected those oils which cannot be replaced because of the war. Following the news concerning the British action in Madagascar, spot prices on geranium oil were reduced in some directions. Lemongrass hit a new low price and, much to the surprise of leading trade factors, anise moved in favor of consumers.

MIXED DEMAND FOR CITRUS OILS

Citrus oils were rather mixed. Lemon remained very firm throughout the period with most houses reporting good sales while orange was considerably unsettled because of liberal offerings and a narrow buying movement. Substantial arrivals of Brazilian oil have had an unfavorable influence on the general position of the market here and most houses found it necessary to shade prices in order to meet competition.

UPWARD TREND FOR AROMATICS

Several items in the aromatic chemical market were commanding more attention. Consumers in many cases have succeeded in working off surplus stocks and inquiries in several directions indicated a further upturn in activity over the final quarter. There has been little change in the situation insofar as available supplies of many basic materials are concerned, from which aromatics are made, and with the exception of a few isolated cases prices generally remained firm.

LAURIC ACID STOCKS RESTRICTED

Because of a shortage of coconut oil and other high lauric acid oils, General

Preference Order M-60 covering these commodities has been supplemented by a new order which provides that anyone who at the close of business on September 16 had on hand inventories of these oils which amounted to 240,000 pounds or more should set aside and hold intact 25 per cent of such inventory. The Director General for Operations is given control of this additional reserve and it cannot be used except as directed by him.

GUM ARABIC SHIPMENT ARRIVES

Action of certain gums proved highly interesting over the past month. Sumatra benzoin is reported to have shared in the government demand for several crude materials. Approximately 7,000 pounds were purchased by federal agencies, according to reports. Gum arabic turned easier due to the arrival of a substantial quantity. The steamer, although long overdue, had aboard approximately 11,230 bags. Reports indicate that two more steamers are carrying good quantities of gum. Whether they actually arrive here remains a question but the latest addition to spot stocks left the market more than amply supplied.

GOOD SUPPLY OF CAUSTIC SODA

Such chemicals as caustic soda and caustic potash are in better supply because of a reduced demand over the past several months. Makers indicate that inventories are larger than at any time since the war started and consumers should experience little difficulty in obtaining prompt deliveries in the months ahead.

MAY RESTRICT DRUMS TO WAR USE

The War Production Board order limiting the use of drums undoubtedly will result in much confusion. The order indicates a definite trend to confine the use of drums to purposes connected with the prosecution of the war.

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Oil Spruce Needle
IT'S THE SMELL
OF THE
CHRISTMAS TREE

Sparhawk
SPARKILL, N. Y., U. S. A.

Sprunedol
(Spruce Needle Oil, American)
It's not a Substitute—
It isn't an Imitation—
Nor is it Siberian Pine—
It's an American product from the U. S. A.
Why not try it for your own use?

Illustration courtesy of Farm Journal



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A.C. DRURY & CO., Inc., CHICAGO, ILL.

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PRICES IN THE NEW YORK MARKET

(Quotations on these pages are those made by local dealers, but are subject to revision without notice)

ESSENTIAL OILS

Almond Bit, per lb.	5.00@	5.25
S. P. A.	5.25@	7.00
Sweet True	2.30@	2.50
Apricot Kernel	.45@	.48
Amber, rectified	1.35	Nom'l
Angelica Root	150.00	Nom'l
Anise, U. S. P.	3.00@	3.25
Imitation	2.00@	2.10
Aspic (spike), Span.	4.10@	5.25
Avocado	.95@	1.00
Bay	1.60@	1.75
Bergamot	28.00@	30.00
Brazilian	10.00@	
Artificial	4.00@	9.25
Birch, sweet	2.40@	4.25
Birchtar, crude	2.00@	2.25
Birchtar, rectified	3.75@	4.25
Bois de Rose	4.50@	5.20
Cade, U. S. P.	1.20@	1.35
Cajeput	2.30@	3.00
Calamus	20.00	Nom'l
Camphor, "white," dom.	.30@	.35
Cananga, Java native	15.00@	15.75
Rectified	17.00@	17.75
Caraway	16.50@	18.00
Cardamon	35.00@	38.00
Cassia, rectified, U. S. P.	10.75@	11.00
Cedar leaf	.90@	1.00
U. S. P.	1.05@	1.25
Cedar wood	.70@	.80
Celery	35.00@	40.00
Chamomile	150.00	Nom'l
Cinnamon	10.50@	32.00
Citronella, Ceylon	1.25@	1.35
Java	2.25@	3.00
Cloves, Zanzibar	1.75@	2.50
Copaiba	.80@	.85
Coriander	30.00@	35.00
Imitation	8.00@	14.00
Croton	3.00@	3.75
Cubebs	4.75@	5.25
Cumin	8.00@	11.00
Dillseed	7.00@	7.50
Erigeron	2.15@	2.50
Eucalyptus	.95@	1.02
Fennel, sweet	4.00@	4.50
Geranium, Rose, Algerian	16.50@	17.50
Bourbon	20.00@	25.00
Turkish	5.50@	5.75
Ginger	20.00@	22.00
Guaiac (Wood)	5.25@	7.00
Hemlock	1.20@	1.35
Substitute	.55@	.60
Juniper Berries	12.00@	18.00
Juniper Wood, imitation	.75@	.80
Laurel	5.00	Nom'l
Lavandin	8.00@	8.50
Lavender, French	10.00@	12.00
Lemon, Calif.	3.25@	
Lemongrass	2.00@	2.10
Limes, distilled	10.00@	12.00
Expressed	13.75@	15.00
Linaloe	4.00@	4.25
Lovage	95.00	Nom'l
Marjoram	6.00@	7.25
Neroli, Bigarde, P.	340.00	Nom'l
Petale, extra	325.00	Nom'l
Olibanum	5.00@	5.75
Opopanax	25.00	Nom'l
Orange, bitter	5.50@	6.00
Brazilian	2.00@	2.50
Calif. exp.	2.10@	3.00
Orris Root, con. (oz.)	19.25	Nom'l
Artificial	36.00@	40.00
Orris Root, abs. (oz.)	100.00	Nom'l
Pennyroyal, Amer.	2.65@	2.80
European	2.50@	3.00
Peppermint, natural	5.40@	5.60
Redistilled	5.75@	5.90
Petitgrain	1.90@	2.25

Pimento	4.00@	8.00
Pinus Sylvestris	4.25@	5.00
Pumillonis	4.25@	4.80
Rose, Bulgaria (oz.)	25.00@	32.00
Synthetic, lb.	45.00@	55.00
Rosemary, Spanish	1.75@	3.00
Sage	8.25@	9.00
Sage, Clary	45.00	Nom'l
Sandalwood, East India	6.00@	6.75
Sassafras, natural	2.00@	2.15
Artificial	2.00@	2.25
Snake root	10.00@	12.75
Spearmint	3.30@	3.50
Thyme, red	2.75@	4.00
White	3.25@	5.00
Valerian	30.00	Nom'l
Vetiver, Java	40.00@	45.00
Wintergreen	5.25@	8.50
Wormseed	3.00@	3.10
Ylang Ylang, Manila	38.00	Nom'l

TERPENELESS OILS

Bay	2.75@	2.80
Bergamot	49.00	Nom'l
Grapefruit	65.00@	
Lavender	20.00	Nom'l
Lemon	40.00@	45.00
Lime, ex.	140.00@	160.00
Distilled	82.00@	87.00
Orange, sweet	100.00@	155.00
Peppermint	11.50@	14.00
Petitgrain	3.85@	4.00
Spearmint	5.00@	6.00

DERIVATIVES AND CHEMICALS

Acetaldehyde 50%	1.90@	2.75
Acetophenone	1.90@	2.00
Alcohol C 8	7.50@	10.00
C 9	14.00@	18.00
C 10	7.75@	12.00
C 11	11.50@	15.00
C 12	7.20@	8.50
Aldehyde C 8	22.50@	28.00
C 9	30.00@	32.00
C 10	24.00@	25.50
C 11	22.00@	26.00
C 12	30.00@	35.00
C 14 (so called)	6.00@	7.25
C 16 (so called)	8.25@	9.00
Amyl Acetate	.50@	.75
Amyl Butyrate	.90@	1.10
Amyl Cinnamate	4.50@	5.80
Amyl Cinnamate Aldehyde	3.00@	5.50
Amyl Formate	1.00@	1.75
Amyl Phenyl Acetate	3.75@	4.00
Amyl Salicylate	1.25@	1.40
Amyl Valerate	2.00@	2.10
Anethol	3.25@	3.35
Anisic Aldehyde	3.75@	4.00
Benzophenone	1.15@	1.30
Benzyl Acetate	.75@	1.35
Benzyl Alcohol	.80@	1.00
Benzyl Benzoate	1.10@	1.50
Benzyl Butyrate	3.25	Nom'l
Benzyl Cinnamate	6.50	Nom'l
Benzyl Formate	3.75@	4.00
Benzyl-iso-eugenol	10.25@	11.25
Benzylidenacetone	2.25@	3.40
Borneol	1.80	Nom'l
Bornyl Acetate	2.00	Nom'l
Bromstyrol	5.00	Nom'l
Butyl Acetate	.11@	.14½
Cinnamic Acid	3.75@	4.50
Cinnamic Alcohol	3.50@	6.00
Cinnamic Aldehyde	1.65@	1.75
Cinnamyl Acetate	10.40	Nom'l
Cinnamyl Butyrate	12.00@	14.00
Cinnamyl Formate	10.00@	13.00
Citral, C. P.	5.75@	7.00
Citronellol	6.25	Nom'l
Citronellyl Acetate	4.00@	5.10

Coumarin	3.00@	3.50
Cuminic Aldehyde	8.00@	11.25
Diethylphthalate	.24@	.33
Dimethyl Anthranilate	4.55@	5.00
Ethyl Acetate	.25@	.50
Ethyl Anthranilate	5.75@	7.50
Ethyl Benzoate	.90@	1.15
Ethyl Butyrate	.75@	.90
Ethyl Cinnamate	3.60@	3.80
Ethyl Formate	.60@	1.00
Ethyl Propionate	.80@	1.00
Ethyl Salicylate	.90@	1.00
Ethyl Vanillin	6.05@	6.75
Eucalyptol	2.50@	2.85
Eugenol	3.20@	3.50
Geraniol, dom.	3.00@	5.25
Geranyl Acetate	3.50@	4.00
Geranyl Butyrate	4.00@	5.75
Geranyl Formate	4.25@	6.25
Heliotropin, dom.	6.50@	9.00
Hydrotropic Aldehyde	15.00@	18.00
Hydroxycitronellal	7.00@	10.00
Indol, C. P.	30.00@	35.00
Iso-borneol	1.10@	2.00
Iso-butyl Acetate	1.25@	2.00
Iso-butyl Benzoate	2.50@	2.75
Iso-butyl Salicylate	2.70@	5.00
Iso-eugenol	3.30@	4.00
Iso-safrol	3.00	Nom'l
Linalool	7.35@	8.00
Linalyl Acetate 90%	7.25@	10.00
Linalyl Anthranilate	15.00	
Linalyl Benzoate	10.50	
Linalyl Formate	9.00@	12.00
Menthyl, Japan	13.50@	14.00
Chinese	13.50@	14.00
Synthetic	12.00	Nom'l
Methyl Acetophenone	1.60@	2.00
Methyl Anthranilate	2.50@	2.80
Methyl Benzoate	.70@	1.10
Methyl Cellulose, f.o.b. ship-		
ping point	.60	Nom'l
Methyl Cinnamate	3.50@	4.00
Methyl Eugenol	3.50@	6.75
Methyl Heptenone	3.25@	
Methyl Heptene Carbonate	45.00	Nom'l
Methyl Iso-eugenol	6.25@	11.50
Methyl Octene Carbonate	24.00@	30.00
Methyl Paracresol	2.50	Nom'l
Methyl Phenylacetate	3.75@	4.00
Methyl Salicylate	.35@	.38
Musk Ambrette	6.00@	9.50
Ketone	6.00@	10.50
Xylene	2.25@	3.25
Neroline (ethyl ester)	2.00@	3.15
Paracresol Acetate	2.50	Nom'l
Paracresol Mythl Ether	2.60@	3.50
Paracresol Phenyl-acetate	6.50@	8.50
Phenylacetaldehyde 50%	2.75@	3.50
100%	4.50@	5.00
Phenylacetic Acid	3.25@	3.70
Phenylethyl Acetate	3.00@	5.00
Phenylethyl Alcohol	2.50@	3.00
Phenylethyl Anthranilate	16.00@	
Phenylethyl Butyrate	6.50@	10.00
Phenylethyl Propionate	5.00@	6.50
Phenyl Formate	12.50@	18.00
Phenyl Valerianate	16.00@	17.50
Phenylpropyl Acet.	10.00	Nom'l
Santalyl Acetate	20.00@	22.50
Skatol, C. P. (oz.)	5.35@	6.00
Styralyl Acetate	2.50@	3.00
Styralyl Alcohol	9.25@	12.00
Terpineol, C. P.	.50@	.75
Terpinyl Acetate	.97@	1.20
Thymene	.45@	
Thymol	2.25@	5.25
Vanillin (clove oil)	2.60	Nom'l
(quaiacal)	2.35	Nom'l
Lignin	2.35	Nom'l

(Continued on p. 75)



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(Continued from p. 73)

Vetivert Acetate	25.00	Nom'l
Violet Ketone Alpha	18.00	Nom'l
Beta	15.00	Nom'l
Methyl	6.50	Nom'l
Yara Yara (methyl ester)	1.85@	2.25

BEANS

Angostura	2.50@	3.00
Tanka Beans, Surinam	.70@	.95
Vanilla Beans		
Mexican, whole	16.00@	17.00
Mexican, cut	15.00@	16.00
Bourbon, whole	12.75@	13.00
South American	14.00	Nom'l
Tahiti	6.75@	7.15

SUNDRIES AND DRUGS

Acetone	.08 1/2 @	
Almond meal	.25@	.27
Ambergris, ounce	17.00@	20.00
Balsam, Copaiba	.44@	.52
Peru	1.25@	1.35
Beeswax, bleached, pure		
U. S. P.	.61@	.63
Yellow, refined	.59@	.60
Bismuth, sub-nitrate	1.20@	1.22
Borax, crystals, carlot ton	55.50@	58.00
Boric Acid, U. S. P., cwt.	6.95@	7.55
Calamine	.18@	.20
Calcium, phosphate	.08@	.08 3/4
Phosphate, tri-basic	.09@	.10
Camphor, domestic	.66 1/2 @	.81 1/2
Castoreum	13.00@	26.00
Cetyl Alcohol	1.75	Nom'l
Pure	2.25	Nom'l
Chalk, precip.	.03 1/2 @	.06 1/2

Cherry Laurel Water, carboy	5.75@	6.25
Citric Acid	.21	Nom'l
Civet, ounce	28.00@	49.00
Clay, Colloidal	.07@	.15
Cocoa Butter, lump	.25 1/2 @	.27
Cyclohexanol (Hexalin)	.30@	.50
Fuller's Earth, ton	15.00@	33.00
Glycerine, C. P., drums	.18 1/4 @	.18 3/4
Gum Arabic, white	.42@	.45
Amber	.16@	.17
Gum Benzoin, Siam	4.00@	4.25
Sumatra	.50@	
Gum Galbanum	1.80@	2.00
Gum Myrrh	.60@	.65
Henna, pwd.	.35@	.37
Kaolin	.05@	.07
Labdanum	3.25@	5.00
Lanolin, hydrous	.35@	.36
Anhydrous	.36@	.37
Magnesium, carbonate	.09@	.10 3/4
Stearate	.24@	.27
Musk, ounce	50.00@	55.00
Olibanum, tears	.25@	.30
Siftings	.09@	.13
Orange Flower Water, gal.	2.00@	2.50
Orris Root, pwd.	1.50@	1.55
Paraffin	.06 1/4 @	.09
Peroxide	1.10@	1.75
Petrolatum, white	.06 1/4 @	.08 1/2
Quince Seed	1.85@	1.90
Rice Starch	.09@	.10
Rose Leaves, red	5.45@	5.75
Rose Water, gal.	4.50@	8.00
Rosin M. per cwt.	3.98@	
Salicylic Acid	.35@	.40
Saponin	3.00@	3.25
Silicate, 40°, drums, works,		

100 pounds	.80@	1.20
Soap, neutral, white	.20@	.25
Sodium Carb.		
58% light, 100 pounds	1.35@	2.35
Hydroxide, 76% solid, 100 pounds	2.60@	3.75
Spermaceti	.29@	.31
Stearate Zinc	.30@	.31
Styrax	2.00@	2.35
Tartaric Acid	.64	Nom'l
Tragacanth, No. 1	3.90@	4.20
Triethanolamine	.34 1/2	Nom'l
Violet Flowers	1.75@	2.00
Zinc Oxide, U. S. P. bbls.	.10 1/2 @	.10 3/4

OILS AND FATS

Castor No. 1, tanks	.13@	
Cocoonut, Manila Grade, c.i.f., tanks	.0835@	
Corn, crude, Midwest, mill, tanks	.12 3/4 @	
Corn Oil, distilled, bbls.	.15 1/2	Nom'l
Cotton, crude, Southeast, tanks	.12 3/4 @	
Grease, white	.08 3/4 @	
Lard	.12 7/8 @	.13
Lard Oil, common, No. 1 bbls.	.14 5/8 @	.16
Palm, Niger, drums	.08 1/4 @	
Peanut, refined, barrels	.17	Nom'l
Red Oil, distilled, tanks	.11@	.11 3/4
Stearic Acid		
Triple pressed	.17@	.18 3/4
Double pressed	.14@	.15 3/4
Tallow, acidless, barrels	.14 1/4 @	
Tallow, N. Y. C., extra	.09 3/4 @	
Whale Oil, refined	.1070@	

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